

# 3<sup>rd</sup> Parahyangan International ACCOUNTING & BUSINESS CONFERENCE 2017

## COMPARISON OF USER EXPERIENCE ON GO-JEK AND GRAB MOBILE APPS (A STUDY ON PT. GO-JEK AND PT. GRAB INDONESIA CONSUMERS IN DKI JAKARTA)

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### **Abstract**

*This research examines the comparison of user experience between two mobile apps: Go-Jek and Grab by conducting a survey to look for differences in the experience perceived by one group of users of both applications. User experience is measured through the variable of sub-happiness, task success, earnings and uptime. The method used in this research is descriptive comparative analysis with quantitative approach. The sampling technique is done by accidental sampling based on spontaneous factors that involve the samples being drawn from the part of population that is close to hand. The number of samples is determined by using iterations at the amount of 63 respondents. The research object is user experience. The analysis of the data in this research uses paired t-test.*

*The result of this research shows that the t-value obtained, 2.420, is greater than t-table with  $df = 67$  by 1.996,  $H_0$  is rejected. So it is found that these mobile apps (Go-Jek and Grab) have differences regarding their User Experience.*

*Based on the results, the writers suggest Go-Jek to do more maintenance of the application to reduce the errors that still exist for the use in rush hour. The writers also suggest Grab Indonesia to add features to improve application's reliability.*

**Keywords:** User Experience, mobile apps, Go-Jek, Grab.

**JEL Classification:** D12



## INTRODUCTION

In an economic life of a country, information technology takes an important role because information technology advancement will improve the ability of productivity in the world of industry particularly in the field of information technology-based creative industry (Suciseptia, 2014). It can be seen from the emergence of various mobile applications in Indonesia both national and international products in which every year, the growth is significant. One of the software on internet utilized in marketing communication activities and brand establishment is an app. Nowadays, some companies at least have applications for their brands and products, both company and e-commerce apps.

According to Fenech and O’Cass (2001), “a representation of brand can influence consumer perception toward the brand so that marketers have to ensure the elements that exist on the site/app software can be a positive representation both in aesthetics and in providing what is perceived by the consumers.” A good representation can be created by forming a good experience. As what Schmitt (2008: 113) said, the only valid aim at marketing is the creation of valuable customer experience. It also applies in the world of internet. The experience perceived by users in engaging certain technology, including internet and sites, is known as user experience (Garrett, 2011: 6).

A rapid internet technology development causes change in public society. Many business start to appear by engaging the internet technology development. One of them is the business in service provider-based app in the field of online-based transportation mode that apparently can give solutions and answer various public worries about public transportation service. Traffic jam in big cities and public suspense with public transportation safety are solved with the existence of online transportation apps that provide ease and convenience for their users.

Numerous companies that offer similarly various service make the competition tighter. Online transportation business that recently have been known very well are Grab and Go-Jek. Both app-based transportation companies are proved causing a significant change mainly for public society lives. Even, these companies have become app-based service companies as public main choice especially in big cities. They compete each other tightly (Wiratri, 2016).



The level of rivalry of Go-Jek and Grab is getting higher. Those two companies have grown rapidly both in term of the number of rides for transportation service and app development on each company. Currently, Go-Jek app has been downloaded nearly ten million times both at Google Play Store and App Store (iOS). As a tough competitor of Go-Jek in this business, Grab app has been downloaded almost ten million times through Android smartphone. This app can also be downloaded on Apple and Blackberry (webhouzz.com, retrieved on January 2017).

These companies are innovating by developing offered features beside transportation service to fulfill the need of life style and logistics in one app. Go-Jek adds other services beside *ojek* transportation service, namely *Go-Car*, *Go-Food*, *Go-Mart*, *Go-Send*, *Go-Box*, *Go-Pulsa*, *Go-Massage*, *Go-Clean*, *Go-Glam*, *Go-Tix*, *Go-Auto*, *Go-Med*, and *Go-Busway* (Go-Jek.com, retrieved on December 20<sup>th</sup> 2016). Meanwhile, Grab provides *ojek* transportation service named *GrabBike*. Grab is also innovating by adding *GrabTaxi*, *GrabCar*, *GrabExpress*, *GrabFood*, *GrabHitch*, and its latest feature namely *GrabChat* to ease communicating between customers and driver partners (Grab.com, retrieved on December 20<sup>th</sup> 2016).

In this competition condition, the companies keep making effort to raise customer loyalty. Therefore, there needs to be a strategy as differentiation for each company in attracting customer interest and maintaining customers in order to keep using the company's service in the future.

Based on the background, the writers are interested to conduct a research entitled: **Comparison of User Experience on Go-Jek and Grab Mobile Apps (A Study on PT. Go-Jek and PT. Grab Indonesia Consumers in DKI Jakarta).**

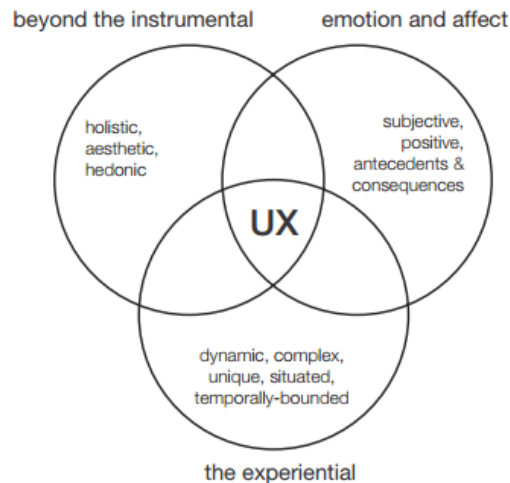
## LITERATURE REVIEW

### User Experience

User experience has become the key aspect in product and service designs. According to Hassenzahl & Tractinsky (2006), an information system should not only be used and useful, but also make users convenient when engaging the system. Many experts say that user



experience offered is a success indicator of a site. Evaluating through UX approach functions to know what is perceived by users, whether users are happy or not, to gain ease, to get suppression feeling or satisfaction while using an app system.



**Figure 1. Three aspects on UX**

Source: Hassenzahl & Tractinsky, pg. 95 (2006)

Definition of ‘experience’ according to Aaker (2000) is:

*“The experience perceived by consumers through participation and involvement on internet has a stronger possibility than the experience perceived by consumers from other conventional media, so that it can be said that the quality of user experience on a site can affect the whole feeling, trust, and user assessment associated to a brand and it is strongly remembered compared to experience through other media.”*

Online marketers can influence the process of virtual consumer design by delivering a good online experience; web experience; that is functional combination, information, feeling, clue, stimulus, and product or online service. In other words, running complex mixed marketing is more than traditional mixed marketing. User experience while online occurs with companies in cyberspace as the result of exposure to a combination to idea, feeling, and impulse due to the other marketing design and elements on online presentation (Constantinides, 2004).

According to Rodden, Hutchinson, and Xin Fu (2010), user experience

*"...is regarded as a comprehensive concept describing the subjective experience resulting from the interaction with technology. Although the concept of UX is still rather young, there are a few common key assumptions that are widely accepted: UX is generally agreed to depend on the person (i.e. subjective) and contextual factors like physical, social and cultural aspects in the situation of use, and to be dynamic and temporally evolving over the instances of use."*

In this research, the data collection uses HEART and PULSE framework to gain information about users. HEART is a framework that identifies the quality of UX. HEART framework is used to measure from the side of users, how users' feeling when using a mobile app. PULSE is a framework used for measurement in a big scale and focuses on business or technical aspects of a product (Rodden, Hutchinson, and Xin Fu, 2010). Both frameworks are chosen because they have measurement components that can measure all aspects related to user experience when using a mobile app and they can be used to measure UX that needs deep material questions.

The user experience measurement in this research refers to the research of HEART and PULSE factors elaborated according to Rodden, Hutchinson, and Xin Fu (2010) by using four instruments in which having indicators as follow:

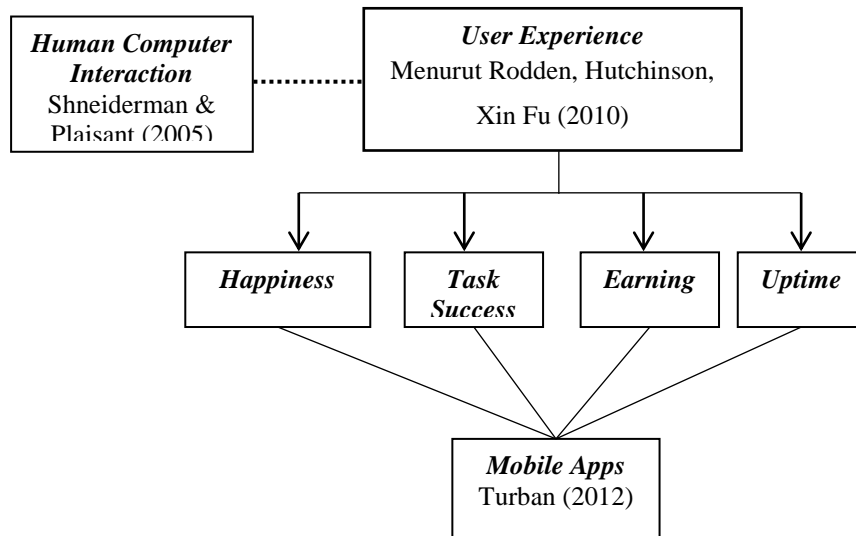
1. *happiness*: satisfaction, visual attraction, possibility of recommendation, and perception of customer convenience;
2. *task success*: efficiency (for instance time to finish tasks), effectiveness (for instance percentage of finished tasks), and level of mistake occurred;
3. *earning*: perception of users toward benefits and advantages earned in accessing app; and
4. *uptime*: perception of users toward guarantee of information availability and feature reliability.

In this context, design or user experience can be concluded as a form of interaction between human and computer that covers mobile apps. The user experience is related to what is perceived by users in relation to ease, convenience, efficiency, and benefit while using mobile apps. A user experience designer can answer questions like: why a button is placed underneath an image, it has green color, it has a square with an arrow downward icon, as a UX designer effort to adjust the ability and experience the users. The conclusion is that UX is not what users see. UX designers do not only produce attractive designs to be seen, but also



answer why the design is produced like that, a design that is able to make users feel convenient when it succeeds obtaining its objectives when using a product.

Based on the information above, there will be a test to examine the phenomenon. Systematically, the writers depict a comparison of two research objects; they are the experience perceived by users on Go-Jek and Grab mobile apps and the instruments attached to the variables based on the theory used by the writers as follow:



**Figure 2. Framework Chart**

explanation:

————— : observed

..... : not observed

Source: organized by the writers, 2017

## HYPOTHESIS

Based on the framework above, the hypothesis of this research are:

1. there is difference of Happiness on Go-Jek and Grab mobile apps for users in DKI Jakarta;
2. there is difference of Task success on Go-Jek and Grab mobile apps for users in DKI Jakarta;
3. there is difference of Earning on Go-Jek and Grab mobile apps for users in DKI Jakarta;

4. there is difference of Uptime on Go-Jek and Grab mobile apps for users in DKI Jakarta; and
5. there is difference of ser experience on Go-Jek and Grab mobile apps for users in DKI Jakarta.

## **RESEARCH METHOD**

This research is conducted on two apps (Go-Jek and Grab) with their own different characteristics. The reason of choosing these companies is because the companies have a similar position, especially in the number of app users within the top position particularly in DKI Jakarta. Therefore, by comparing them, the writers will identify the difference in term of experience perceived by users from both apps.

Research design used by the writers in this research is survey method because the writers take sample from one of population and collect the data using questionnaire. According to Ridwan (2011: 49), a survey research is usually conducted to gain a generalization from deep observation but the generalization can be more accurate if the research uses a representative sample.

Survey method is a method conducted on both big and small population by using questions or statements toward the issue related to the topic being studied. The type of method used in this research is descriptive comparative with quantitative approach. According to Sugiyono (2011: 147), a descriptive method is:

*“Descriptive statistics is a statistics used to analyze data by describing or depicting collected data as it is, without intending to make a conclusion that applies to generalization.”*

The comparative method in this research is directed to discover whether there are differences in the aspects or variables observed within the groups of Go-Jek and Grab mobile apps users or not. To do this research, the population taken by the writer is all customers of Go-Jek and Grab mobile apps in DKI Jakarta.

The amount of sample of this research will be decided using iteration technique. It is chosen due to the number of population of Go-Jek and Grab mobile apps users is uncertain. So, it is necessary to calculate a minimum number of sample to gain the number of respondent to be observed. The minimum samples that have to be taken are sixty three



respondents of both mobile apps users. There are characteristics of respondent in this research. They:

1. are located in Jakarta, Indonesia; and
2. have used both Go-Jek and Grab mobile apps at least two times.

Data analysis in this research engages SPSS software that aims to discover comparison between Go-Jek and Grab mobile apps user experience. The writers do a validation and reliability test first to the questionnaire so that this research can be accepted academically and be accountable.

To discover user experience comparison between Go-Jek and Grab mobile apps, the writers engage the approach of statistic descriptive analysis then they do classic assumption test.

### Hypothesis Test

The hypothesis proposed in this research is user experience comparison test on Go-Jek and Grab mobile apps. In testing the hypothesis, the writers use paired t-test.

## RESULTS AND DISCUSSION

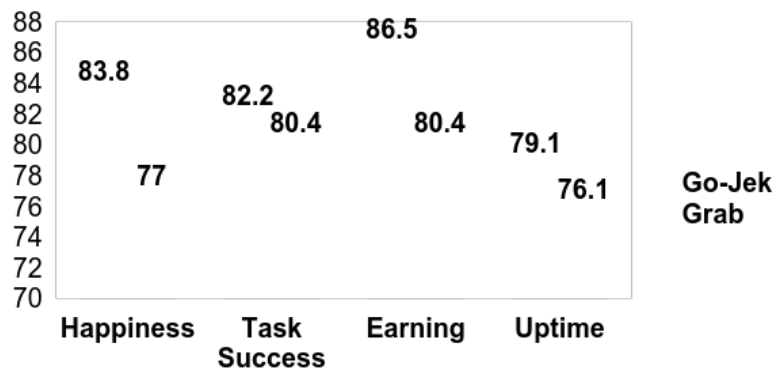
### Comparison of User Experience Assessment



**Figure 3. Chart of Comparison Mean of User Experience Variable between Go-Jek and Grab Mobile Apps**

Source: Data Processing 2017





**Figure 4. Chart of Comparison Mean of User Experience Sub-variable between Go-Jek and Grab Mobile Apps**

Source: Data Processing 2017

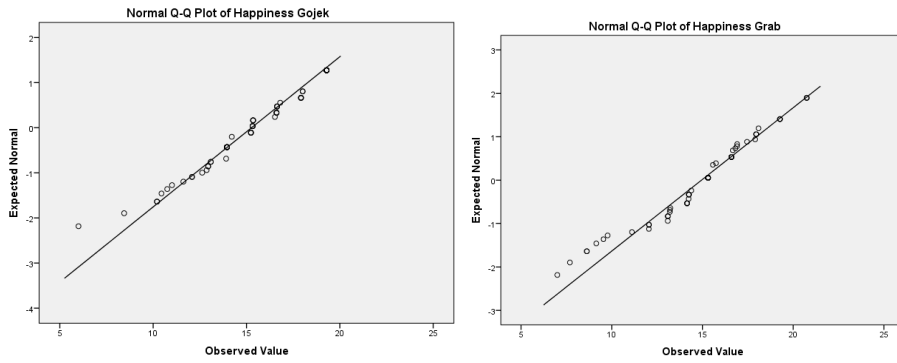
On Figure 3, it can be seen that the mean of respondent on Go-Jek mobile app is 82.1. Meanwhile, the mean of respondent of Grab is 77.7 which is lower than Go-Jek. These values show that respondents see Go-Jek mobile app more positive than the assessment on user experience variable on Grab mobile app.

On Figure 4, it can be seen that the four sub-variables of user experience on Go-Jek mobile app are rated more than on Grab mobile app. It shows that the sub-variables that form user experience on Go-Jek mobile app are rated more positive than Grab mobile app.

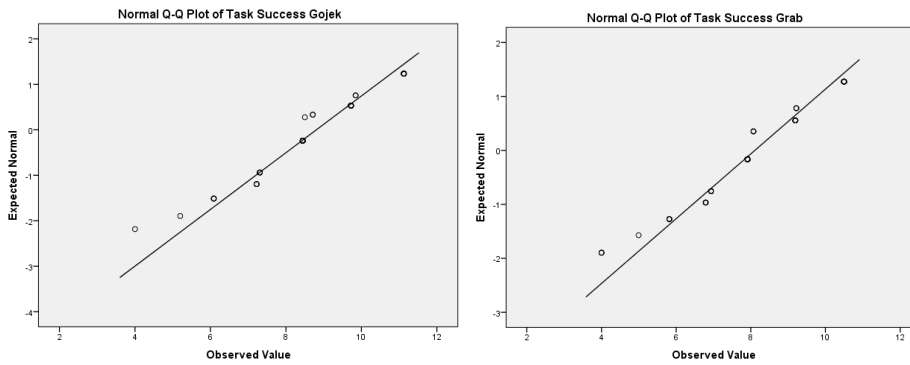
### Classic Assumption Test

Before going further to comparative analysis, the writers do classic assumption test as appropriateness in comparative analysis. The assumption test that will be done is normality test.

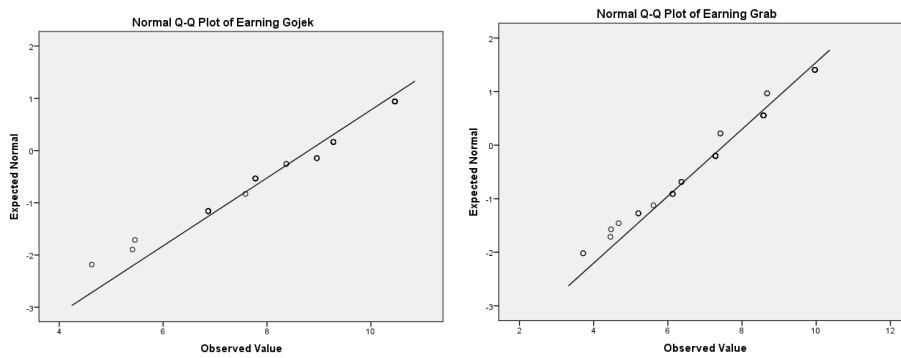
Normality test aims to see whether the sample data come from population data distributed normal or not. Normality assumption testing in this research uses histogram charts as follow:



**Figure 5. Normality Test of Happiness Sub-variable on Go-Jek and Grab**



**Figure 6. Normality Test of Task Success Sub-variable on Go-Jek and Grab**



**Figure 7. Normality Test of Earning Sub-variable on Go-Jek and Grab**

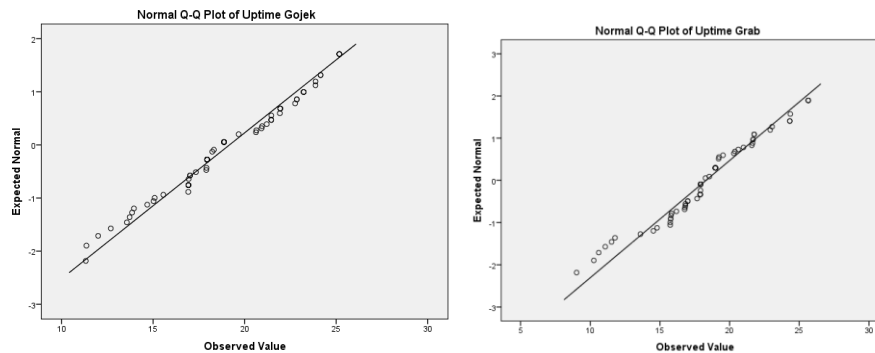


Figure 8. Normality Test of Uptime Sub-variable on Go-Jek and Grab

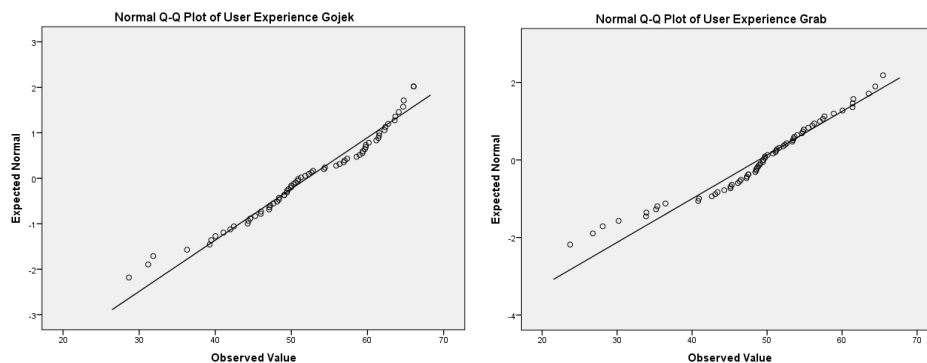


Figure 9. Normality Test of User Experience Variable on Go-Jek and Grab

Based on the results above, each result of normality assumption test shows that the data spreads around diagonal lines and follows the direction of diagonal lines or the histogram charts. So, it can be concluded that the whole data group has normal distribution then difference in hypothesis test with paired t-test can be done in this research.

### Hypothesis Tests

A. The decision made regarding difference in sub-variable Happiness on Go-Jek and Grab, as follow:

$H_0 : \mu_1 = 0$  → There is no difference in Happiness on Go-Jek and Grab mobile apps.

$H_1 : \mu_1 \neq 0$  → There is difference in Happiness on Go-Jek and Grab mobile apps.

The basis of decision are:

- a. If  $-t_{-\alpha/2} < t_{\text{count}} < t_{\alpha/2}$ ,  $H_0$  is accepted.
- b. If  $-t_{-\alpha/2} > -t_{\text{count}}$  or  $t_{-\alpha/2} < t_{\text{count}}$ ,  $H_0$  is rejected.

**Table 1. Paired t-Test Result in Happiness**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Happiness Gojek - Happiness Grab	.32693	4.07888	.49464	-.66037	1.31422	.661	67	.511

Based on Table 1, it can be seen that the value of  $t_{\text{count}}$  gained is 0.661 smaller than  $t_{\text{table}}$  value, with  $df = 67$  at the amount of 1.996 then  $H_0$  is accepted. So, it can be concluded that there is no difference regarding Happiness in Go-Jek and Grab users.

- B. The decision made regarding difference in sub-variable Task Success on Go-Jek and Grab, as follow:

$H_0 : \mu_1 = 0$  → There is no difference in Task Success on Go-Jek and Grab mobile apps.

$H_1 : \mu_1 \neq 0$  → There is difference in Task Success on Go-Jek and Grab mobile apps.

The basis of decision are:

- a. If  $-t_{-\alpha/2} < t_{\text{count}} < t_{\alpha/2}$ ,  $H_0$  is accepted.
- b. If  $-t_{-\alpha/2} > -t_{\text{count}}$  or  $t_{-\alpha/2} < t_{\text{count}}$ ,  $H_0$  is rejected.

**Table 2. Paired t-Test Result in Task Success**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Task Success Gojek - Task Success Grab	.69909	1.86540	.22621	.24756	1.15061	3.090	67	.003

Based on Table 2, it can be seen that the value of  $t_{\text{count}}$  gained is 3.090 bigger than  $t_{\text{table}}$  value, with  $df = 67$  at the amount of 1.996 then  $H_0$  is rejected. So, it can be



concluded that there is difference regarding Task Success in Go-Jek and Grab users. Based on the result of mean test of paired sample statistics, it can be seen that mean value for Task Success in Go-Jek users is bigger than Task Success in Grab users. It means Task Success of Go-Jek is better than Grab.

C. The decision made regarding difference in sub-variable Earning on Go-Jek and Grab, as follow:

$H_0 : \mu_1 = 0$  → There is no difference in Earning on Go-Jek and Grab mobile apps.

$H_1 : \mu_1 \neq 0$  → There is difference in Earning on Go-Jek and Grab mobile apps.

The basis of decision are:

a. If  $-t_{-\alpha/2} < t_{count} < t_{\alpha/2}$ ,  $H_0$  is accepted.

b. If  $-t_{-\alpha/2} > -t_{count}$  or  $t_{\alpha/2} < t_{count}$ ,  $H_0$  is rejected.

**Table 3. Paired t-Test Result in Earning**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Earning Gojek - Earning Grab	1.28188	1.90455	.23096	.82088	1.74288	5.550	67	.000

Based on Table 3, it can be seen that the value of  $t_{count}$  gained is 5.550 bigger than  $t_{table}$  value, with  $df = 67$  at the amount of 1.996 then  $H_0$  is rejected. So, it can be concluded that there is difference regarding Earning in Go-Jek and Grab users. Based on the result of mean test of paired sample statistics, it can be seen that mean value for Earning in Go-Jek users is bigger than Earning in Grab users. It means Earning of Go-Jek is better than Grab.

D. The decision made regarding difference in sub-variable Uptime on Go-Jek and Grab, as follow:

$H_0 : \mu_1 = 0$  → There is no difference in Uptime on Go-Jek and Grab mobile apps.



$H_1: \mu_1 \neq 0$  → There is difference in Uptime on Go-Jek and Grab mobile apps.

The basis of decision are:

- a. If  $-t_{-\alpha/2} < t_{count} < t_{\alpha/2}$ ,  $H_0$  is accepted.
- b. If  $-t_{-\alpha/2} > -t_{count}$  or  $t_{-\alpha/2} < t_{count}$ ,  $H_0$  is rejected.

**Table 4. Paired t-Test Result in Uptime**

		Paired Differences					t	df	Sig. (2-tailed)
		Paired Differences		Std. Error Mean	95% Confidence Interval of the Difference				
		Mean	Std. Deviation		Lower	Upper			
Pair 1	Uptime Gojek - Uptime Grab	.86318	3.95578	.47971	-.09433	1.82068	1.799	67	.076

Based on Table 4, it can be seen that the value of  $t_{count}$  gained is 1.799 smaller than  $t_{table}$  value, with  $df = 67$  at the amount of 1.996 then  $H_0$  is accepted. So, it can be concluded that there is no difference regarding Uptime in Go-Jek and Grab users.

E. The decision made regarding difference in sub-variable User Experience on Go-Jek and Grab, as follow:

$H_0: \mu_1 = 0$  → There is no difference in User Experience on Go-Jek and Grab mobile apps.

$H_1: \mu_1 \neq 0$  → There is difference in User Experience on Go-Jek and Grab mobile apps.

The basis of decision are:

- a. If  $-t_{-\alpha/2} < t_{count} < t_{\alpha/2}$ ,  $H_0$  is accepted.
- b. If  $-t_{-\alpha/2} > -t_{count}$  or  $t_{-\alpha/2} < t_{count}$ ,  $H_0$  is rejected.

**Table 5. Paired t-Test Result in User Experience**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	User Experience Gojek - User Experience Grab	3.17107	10.80667	1.31050	.55530	5.78684	2.420	67	.018

Based on Table 5, it can be seen that the value of  $t_{\text{count}}$  gained is 2.420 bigger than  $t_{\text{table}}$  value, with  $df = 67$  at the amount of 1.996 then  $H_0$  is rejected. So, it can be concluded that there is difference regarding User Experience in Go-Jek and Grab users. Based on the result of mean test of paired sample statistics, it can be seen that mean value for User Experience in Go-Jek users is bigger than User Experience in Grab users. It means User Experience of Go-Jek is better than Grab.

The results are supported by the data from descriptive analysis result that state that from four sub-variables of user experience, namely Happiness, Task Success, Earning, and Uptime, positive mean is given to Go-Jek app as a platform that gives a good experience to its users. Go-Jek Company that apparently has established earlier in Indonesia especially in Jakarta can be the main factor of establishment level of Go-Jek as a platform that gives a positive experience to its users. Meanwhile, Grab that appeared after Go-Jek, even though it has been able to be a head-to-head competitor for Go-Jek in Jakarta, still has to admit the excellence of Go-Jek as the precursor that has produced user experience which does not only deal with user interface but also the aspect of user experience entirely including its business aspect that focuses on effort to fulfill the need and desire of users. So, the earlier emergence of Go-Jek compared to Grab makes it possible for Go-Jek to be able to understand the users' desire based on research activities, planning, development, and tests done around DKI Jakarta.

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