

Analyzing Music Streaming Application Adoption in Indonesia Using a Unified Theory of Acceptance and Use of Technology 2: A Case Study of Premium JOOX and Spotify in Indonesia

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Abstract

The high number of internet users in Indonesia impacts the behaviour of Indonesia's people. Before digital technology penetrated the world of discussing, people are still using radio devices and CDs to enjoy the music. Unlike today, people can easily enjoy music anywhere and anytime without having to carry radio or CDs. People always listen to the music through online music streaming. Indonesia is one of the countries with huge growth potential of streaming music. There are two newcomers from streaming service providers who directly steal the public's attention, they are JOOX and Spotify. This study aims to examine the influence of analyse factors inside UTAUT 2 model that influence the customers on using music streaming application premium service in android mobile phone in Indonesia and to analysed age and gender affecting the influence inside UTAUT 2 model. The data were gathered from 400 respondents in Indonesia chosen by Purposive Non-Probability Sampling technique. The result revealed that there are six factors in the UTAUT2 Model which significantly influence the behavioral intention of premium service of music streaming application adoption, namely *Habit, Hedonic Motivation, Social Influence and Performance Expectancy*. In terms of moderating factors, both *Age and Gender are not moderating any influences of factors towards Behavioral Intention*. The model can predict moderate the *behavioral intention* of consumers towards premium service of music streaming application services in Indonesia since the R² is 58.3%.

Keywords: JOOX, Spotify, behavior intention, use behavior, UTAUT 2, Indonesia

1. Introduction

Nowadays, every single person in Indonesia already used internet for communication basis. Since the Indonesian government developed the Internet infrastructure in the 1980s, the number of internet users in Indonesia continues to increase. The total population was 256,2 million until the year 2016 user penetration the internet reached 51,8% or 132,7 million consist of 52,2% man and 47,5% woman^[1]. The differences between 2014 to 2016 are quite high. APJII recorded that in 2014 Indonesia internet penetration is 34.9% or 88,1 million. Increasing in the internet shows that it's connected the world than ever before.

The high number of internet users in Indonesia impacts the behaviour of Indonesia's people. There are several activities of people that change becomes online. One of the several activities is listening to the online music. Previously, people used compact disc and cassette to listen to the music. Before digital technology penetrated the world of discussing, people are still using radio devices and CDs to enjoy the music. Unlike today, people can easily enjoy music anywhere and anytime without having to carry radio or CDs. By incessant technological advancements, users now can easily listen to music by simply installing the applications available on the PlayStore service. It is proven by the survey result conducted by Asosiasi Penyelenggara Jasa Internet Indonesia (APJII), the users that use the internet for listen to the online music streaming is 35,5% or 46,9 million users in Indonesia, this number is quite high for the internet users that use the music streaming^[1].

Indonesia's population of 250 million is a big market. Indonesian smartphone users are also growing rapidly. Digital marketing research institute Emarketer estimates that by 2018 the number of active smartphone users in Indonesia is more than 100 million people. With that amount, Indonesia will be the country with the fourth largest smartphone active users in the world after China, India, and America^[2]. In December 2017, Android held a share of 88.37% of the mobile operating system market in Indonesia. It was estimated that by 2017 around 173 million people would own a mobile phone in Indonesia, of which around 43% would use a smartphone. The Android operating system was Indonesia's most widely-used operating system in 2017. At the beginning of the year it had almost 80% of the market share. Mobile phone users in Indonesia are increasingly

using their devices to browse the internet and an estimated 28.78% of users accessed the internet from their mobile phone in 2017 ^[3].

Nowadays, listening to the music is become a trend in Indonesia. People always listen to the music through online music streaming. According to Daily Social id, almost 90% of respondents listen to streaming music regularly within the last six months. And of those regular listeners, most 51.05% are listening to between 1 to 14 hours of streaming per week. Therefore, streaming music has gone main-stream in Indonesia ^[4].

2. Theoretical Background

2.1 Performance Expectancy

Performance expectancy is the level of profit that customers get when using a technology ^[5]. The advantages of users of online music services can be a means to search for music, the diversity of music available, etc. Compared to illegal music, subscription-based online music services enable subscribers to gain access to millions of songs from various record labels by pay. Customers also can search his or her favorite song and listen to it by streaming. While by downloading songs illegally, customers need to search for songs, artists, or albums they like and download. In addition to long periods of time, downloaders are most likely exposed to viruses while downloading, as sites that provide music illegally are not trusted sites. And the most important thing, downloading music illegally is an unlawful act.

2.2 Effort Expectancy

Effort expectancy is defined as the degree of ease associated with the use of the system In other words, effort expectancy is the level of convenience that customers feel when using a technology ^[6]. Subscription-based online music services should be easy to use so users can have a better experience while using the service. Perceived ease of use as a non-financial sacrifice, meaning that the degree of difficulty in using a technology must be relatively low, which also means making fewer customer sacrifices and that may affect subscription interest ^[7].

2.3 Social Influence

Social influence is defined as the degree to which an individual perceives that important others believe he or she should use the new system ^[6]. "The influence of customer perceptions on the opinions of the people closest to usage is the extent to which consumers perceive that important others (eg, family and friends) believe that they should use a particular technology" ^[5].

2.4 Facilitating Conditions

Facilitating Conditions is the customer's perception of available resources and support to perform a behavior ^[5]. For example, if an individual has an interest in playing tennis, but the individual does not have the necessary facilities to play tennis, such as rackets and tennis shoes, then there is a possibility that the individual's interest will not be a behavior. In this study, customers need facilitating conditions such as internet connection, adequate smartphone devices, headphones and other devices. Customers will find it difficult to subscribe to online music if they do not have enough devices to download the required apps. Facilitating conditions are a combination of perceived behavioral control, facilitating conditions, and compatibility variables ^[6].

2.5 Hedonic Motivation

Hedonic motivation as pleasure or satisfaction derived from using a technology ^[5]. Subscription-based online music is regarded as a hedonic service, as its primary purpose is to give users pleasure ^[8].

2.6 Price Value

Price value is the customer's perception of value on a service less the monetary cost to be spent ^[8]. Internet charges are the only cost that should be incurred to download songs illegally and listen to songs on an ad-supported service. Therefore, price value is an important factor that must be considered to compete with illegal downloading of songs and ad-supported based services. Internet charges, hardware costs, and subscription fees are fees that must be incurred if you want to use a subscription-based music service. On subscription-based services, users will gain access to listen to millions of songs from various record labels over a period of time by paying some money. With this, users can search and listen to desired songs easily.

2.7 Habit

Habit is "The extent to which people tend to perform behaviors (use IS) automatically because of learning" ^[9]. In other words, habit is the level of a person's tendency to perform a behavior automatically because it has learned the behavior. ^[9] Says that habit is gained from the experience of learning something and being

automatically performed in the future continuously. In this study, habit is used to view customer habits in using subscription-based online music. For example, if a customer wants to listen to music and that customer automatically using a subscription-based online music service, then that customer already has a habit to use the service.

2.8 Behavioral Intention

Behavioral intention is a consideration of how strong the customer's interest to perform a behavior ^[10]. In this study, behavioral intention is used to measure how strong the interest of customers to use subscription based online music services.

2.9 Use Behavior

Use behavior is used to measure the intensity or the frequency of the users in using technology of subscribers in using subscription-based online music services ^[5].

2.10 Research Framework

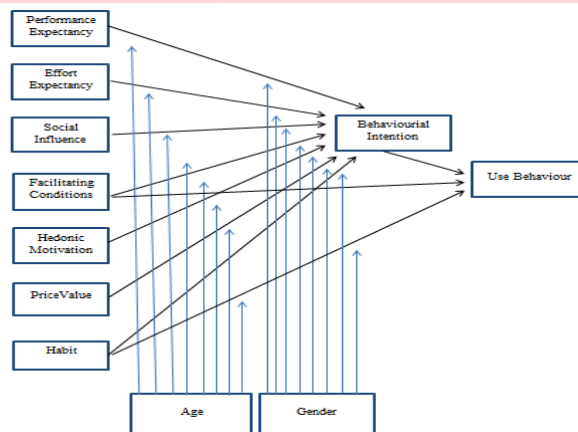


Figure 2.1 Research Framework

2.11 Research Hypotheses

- H1. Performance Expectancy has a positive and significant influence on Behavioral Intention
- H1a. Performance Expectancy's influence on Behavioral Intention is moderated by Age
- H1b. Performance Expectancy's influence on Behavioral Intention is moderated by Gender
- H2. Effort Expectancy has a positive and significant influence on Behavioral Intention
- H2a. Effort Expectancy's influence on Behavioral Intention is moderated by Age
- H2b. Effort Expectancy's influence on Behavioral Intention is moderated by Gender
- H3. Social Influence has a positive and significant influence on Behavioral Intention
- H3a. Social Influence's influence on Behavioral Intention is moderated by Age
- H3b. Social Influence's influence on Behavioral Intention is moderated by Gender
- H4. Facilitating Condition has a positive and significant influence on Behavioral Intention
- H4a. Facilitating Condition's influence on Behavioral Intention is moderated by Age
- H4b. Facilitating Condition's influence on Behavioral Intention is moderated by Gender
- H5. Hedonic Motivation has a positive and significant influence on Behavioral Intention
- H5a. Hedonic Motivation's influence on Behavioral Intention is moderated by Age
- H5b. Hedonic Motivation's influence on Behavioral Intention is moderated by Gender
- H6. Price Value has a positive and significant influence on Behavioral Intention
- H6a. Price Value's influence on Behavioral Intention is moderated by Age
- H6b. Price Value's influence on Behavioral Intention is moderated by Gender
- H7. Habit has a positive and significant influence on Behavioral Intention
- H7a. Habit's influence on Behavioral Intention is moderated by Age
- H7b. Habit's influence on Behavioral Intention is moderated by Gender
- H8. Facilitating Conditions has a positive and significant influence on Use Behavior
- H8a. Facilitating Condition's influence on Use Behavior is moderated by Age
- H9. Habits has a positive and significant influence on Use Behavior
- H9a. Habit's influence on Use Behavior is moderated by Age

- H9b. Habit's influence on Use Behavior is moderated by Gender
 H10 Behavioral Intention has a positive and significant Influence on Use Behavior

3. Methodology

3.1 Research Characteristics

For the research type, the author used quantitative method for this research. Quantitative research method is research methods that attempt to accurately measure behaviour, knowledge, opinions or attitudes ^[11]. The purpose of this research is conclusive or causal research. Casual research usually done when researchers have seen or read previous research that discusses the relationship between variables. To test whether the relationship between variables that occur in the research also occurs in the object or field under study, the researchers conducted research in a causal way. Based on the type of investigation, this research is classified as a causal research. Causal research conducted if the researcher wants to describe the cause of a problem, whether done experimentally or non-experimentally ^[12].

3.2 Measurement Scale

To calculate data gathered from the sample, this research uses systematic differential with 5 levels of measurement, ranging from "Strongly Disagree" and "Strongly Agree".

3.3 Population and Sample

This research, the population of this research is the premium music streaming application users in Indonesia. In this research, the premium music streaming application users in Indonesia are unknown. In this research, the population is unknown, thus the researcher should use sample size in the range of 100 to 400 based on the suggestion ^[13].

3.4 Data Testing Technique

This study uses SEM methodology that uses Smart PLS due to its structure and complexity. Partial least squares regression is a variance-based statistical method. The analytical software used in this study is smart PLS 3.

3.4.1 Validity Test

The pilot test conducted on SPSS to test the reliability and validity due to the number of samples gathered are below 100. The pilot test gathered from 40 respondents that have all the variables valid Due to the 5% of sampling error allowance and the Pearson's R table for 0.05.

3.4.2 Reliability Test

The data reliability of this research is to see the adequateness of Alpha Cronbach and Composite of the variables' Reliability using SPSS software. For reliability value limits refer to the criteria of Sekaran (2010:325) ^[13] where the Cronbach's Alpha coefficient ≥ 0.60 is considered reliable. In general, reliabilities less than 0.60 are considered to be poor. The result reveals that all the variables are valid.

4. Research Result

4.1.1 Analysis of Structural Equation Model

a. Outer Model

The Data gathered from 400 respondents then processed and tested for its discriminant validity.

1) Convergent Validity

Convergent validity is conducted to test the accurate level of items inside a variable to measure the research object. The indicator used in this test is using Factor Loading (FL). The item can be said to have a convergent validity if the FL score is ≥ 0.5 ^[12]. The result of the FL scores of this research has fullfill the criteria of convergent validity.

Next test is AVE, Assessment of reflective measurement that calculates of each latent variable. AVE results of each variable is more than 0.50. Therefore, the questionnaire fulfills the criteria of convergent validity.

2) Discriminant Validity

Alongside convergent validity, it is also requiring discriminant validity. Indicators of discriminant validity can be seen from the AVE Square Root Score. If the AVE square root score of each AVE variable is higher than the correlation between two variables inside the model, so then the research questionnaire

already fulfils the discriminant validity. The Cross loading factor, a method to determine the discriminant validity can be seen on The table of cross loading of table 4.1

Table 4.1 Cross Loading Result

	BI	EE	FC	H	HM	PE	PV	SI	UB
BI1	0.883	0.441	0.527	0.644	0.561	0.461	0.439	0.426	0.638
BI2	0.907	0.359	0.435	0.633	0.555	0.410	0.387	0.493	0.709
BI3	0.911	0.376	0.442	0.579	0.547	0.454	0.427	0.431	0.693
EE1	0.376	0.863	0.536	0.406	0.483	0.468	0.303	0.356	0.318
EE2	0.398	0.894	0.532	0.476	0.483	0.475	0.378	0.331	0.417
EE3	0.363	0.862	0.496	0.441	0.441	0.455	0.323	0.311	0.377
FC1	0.400	0.521	0.840	0.463	0.504	0.404	0.387	0.395	0.408
FC2	0.484	0.521	0.879	0.482	0.424	0.379	0.391	0.382	0.436
FC3	0.434	0.482	0.826	0.455	0.409	0.349	0.461	0.421	0.447
H1	0.576	0.389	0.412	0.871	0.521	0.427	0.299	0.402	0.639
H2	0.540	0.468	0.510	0.839	0.531	0.379	0.441	0.392	0.558
H3	0.676	0.472	0.522	0.912	0.578	0.505	0.341	0.437	0.715
HM1	0.499	0.484	0.449	0.539	0.860	0.506	0.311	0.406	0.448
HM2	0.536	0.483	0.465	0.530	0.892	0.542	0.331	0.450	0.484
HM3	0.575	0.447	0.458	0.562	0.873	0.459	0.326	0.385	0.593
PE1	0.426	0.498	0.407	0.442	0.507	0.845	0.211	0.369	0.422
PE2	0.399	0.462	0.358	0.404	0.486	0.870	0.125	0.437	0.372
PE3	0.418	0.395	0.361	0.433	0.460	0.825	0.217	0.471	0.404
PV1	0.406	0.350	0.444	0.365	0.340	0.209	0.930	0.200	0.369
PV2	0.436	0.381	0.461	0.392	0.372	0.210	0.934	0.247	0.355
PV3	0.439	0.331	0.440	0.367	0.309	0.188	0.903	0.165	0.365
SI1	0.358	0.365	0.391	0.372	0.332	0.383	0.199	0.797	0.290
SI2	0.424	0.411	0.451	0.434	0.423	0.439	0.205	0.864	0.333
SI3	0.398	0.125	0.268	0.302	0.356	0.364	0.120	0.704	0.338
UB1	0.568	0.281	0.417	0.543	0.399	0.309	0.400	0.298	0.805
UB2	0.686	0.456	0.477	0.727	0.582	0.481	0.357	0.352	0.897
UB3	0.700	0.352	0.423	0.622	0.522	0.421	0.276	0.404	0.893

Source: SmartPLS 3.0 Result Processed by the Author

Table 4.1 shows the value of cross loading of each items that are higher than the score of other construct. The table above indicates a positive result as there is no indication of problem.

3) Composite Reliability

The indicator then measured by its Cronbach's Alpha and Composite reliability to measure whether it is reliable, the reliability relates with a consistency and also a stability of a measurement result. Researchers frequently obtain weaker outer loadings (<0.70) in social science studies ^[16].

Table 4.2 Composite Reliability Result

Variable	Cronbach's Alpha	Composite Reliability
Behavior Intention	0.883	0.928
Effort Expectancy	0.844	0.906
Facilitating Conditions	0.806	0.885
Habit	0.847	0.907
Hedonic Motivation	0.847	0.907
Performance Expectancy	0.803	0.884
Price Value	0.912	0.945
Social Influence	0.696	0.833
Use Behavior	0.833	0.900

Source: SmartPLS 3.0 Result Processed by the Author

b. Inner Model

The second test of PLS is Assessment of the structural model or Inner model Test. This test is conducted to know the influence of the latent variables towards another latent variable ^[15]. The test is conducted by looking at the path value to see whether the influence is significant or not. This test required bootstrapping procedure to get the t-value. Besides the t-value, the variance percentage need to be concerned, which is R^2 for dependent latent variable. The R^2 result 0.67; 0.33; and 0.19 indicate that the model is “Good”, “Moderate”, and “Weak” ^[15].

1) T-Statistical result

One-Tail right sided hypotheses are used in this research due to its power to detect an effect to investigate influences between variances in positive direction. With the significance level of 0.05 and the critical value of 1.65, if the t-value result is greater than 1.65 means that there is a significant influence between independent variable and dependent variable, then, H_0 rejected.

Table 4.3 Path Coefficient and T-Value

Path Diagram	Path Coefficient	t-Value	Conclusion
BI -> UB	0.461	8.558	H_1 accepted
EE -> BI	-0.068	1.523	H_1 rejected
FC -> BI	0.047	0.777	H_1 rejected
FC -> UB	0.056	1.484	H_1 rejected
H -> BI	0.384	6.214	H_1 accepted

H -> UB	0.386	6.332	H_1 accepted
HM -> BI	0.206	3.892	H_1 accepted
PE -> BI	0.080	1.669	H_1 accepted
PV -> BI	0.185	3.905	H_1 accepted
SI -> BI	0.145	3.114	H_1 accepted

Source: SmartPLS 3.0 Result Processed by the Author

As shown in the table 4.3, two out of three hypotheses are rejected and seven hypotheses are accepted.

2) R-square and Q-square Test (R^2 and Q^2)

The measurement method uses R square (R^2) and Q square (Q^2), also known as coefficient determinant. Based on the result of the R^2 on BI construct is 0.583, means Behavior Intention is 58.3% influenced by *Performance Expectancy*, *Social Influence*, *Hedonic Motivation*, *Price Value* and *Habit* while the rest 41.7% are influenced by the other factors that is not studied in this research. It also indicates that the model is “Moderate”. On UB construct, the R^2 is 0.660, means the Use Behavior is 66% influenced by *Behavioral Intention* and *Habit*, while the rest 34% influenced by the other factors outside this research. In addition to evaluating the magnitude of the R^2 values as a criterion of predictive accuracy, researchers should also examine Stone-Geisser’s Q^2 value ^[16]. This measure is an

indicator of the model's out-of-sample predictive power or predictive relevance. When Q^2 values larger than 0 suggest that the model has predictive relevance for a certain endogenous construct. In contrast, values of 0 and below indicate a lack of predictive relevance.

5. Conclusion and Suggestions

5.1 Conclusion

Based on the results and analysis of this research, the author draws some conclusions;

There are 5 variables in this study that were proven to have a positive and significant influence on the consumer's behavioral intention of Premium JOOX and Spotify adoption. The variables were ordered from the highest to lowest affect respectively as follows: *Habit*, *Price Value*, *Hedonic Motivation*, *Social Influence* and *Performance Expectancy*. There is no difference perception of respondents in terms of age and gender.

The proposed model of this research had an R-Square value of 58.3% which means this model has a moderate predicting power to predict customer's behavioral intention towards premium JOOX and Spotify adoption. Therefore, this proposed model can be used to be implemented in deciding JOOX and Spotify management marketing program to increase customer behavioral intention on premium JOOX and Spotify adoption.

5.2 Suggestion

5.2.1 Suggestion for the Company

This study has found that the most significant factor from the modified UTAUT2 Model that influences the Behavioral Intention in the context of premium service of music streaming application adoption service in Indonesia is *Habit*. The lowest item score of descriptive analysis in this factor is related with the addiction in using premium JOOX and Spotify. Therefore, in order to make the consumers become addicted to use premium JOOX and Spotify, the authors suggest creating a discount to the customers who repurchase the premium service of music streaming application, and it will increase the customer addiction.

The second factors that significantly influence the behavioral intention to use premium JOOX and Spotify service is *Price Value*. It would be better for JOOX and Spotify management to increase the quality of the service. Because of several error issues in some features.

The third factor that significantly influence the behavioral intention to use premium JOOX and Spotify service is *Hedonic Motivation*. According to the descriptive analysis result, It would be better for JOOX and Spotify to keep satisfying the customers by fixing the error issues. Customer interest will increase if the using premium service of music streaming application has many songs that the customer likes, easy to find songs that customers love, and have good quality of the sound.

The fourth factor that influence the behavioral intention in using premium JOOX and Spotify services is *Social Influence*. According to the score from the descriptive analysis result, JOOX and Spotify management would be better to have more interactions with some communities or with the one who are important or key player inside the communities for example a music community.

The lowest factor that influence the behavioral intention in using premium JOOX and Spotify services is *Performance Expectancy*. In order to improve the service, JOOX and Spotify management also need to conduct a user's music playlist analysis to attract the users and it can increasing user's productivity to searching a new song in JOOX and Spotify, improve the features and quality of its services to make it more useful for customers, then the customer interest will increase.

5.2.2 Suggestion for the Future Research

Since this UTAUT2 Model can be used for predicting the Behavioral Intention of premium service of music streaming application adoption in Indonesia since it has a moderate explanatory power which is 58.3% and categorized as a moderate model. Use Behavior of premium service of music streaming application adoption in Indonesia since it has a moderate explanatory power which is 66% and categorized as a moderate model, further research is expected to add the moderating variable that might affect the factors.

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