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Strategy to Increase Continued Usage Intention in Digital Payment Applications

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Abstract. The impact of the COVID-19 pandemic has changed a lot of user's behavior directly and indirectly, one of which is the transaction system. In Indonesia, the use of digital payment system has increased significantly during the COVID-19 pandemic. Fuel retailers have also adopted digital payments to ease the users while making transaction from mobile applications. One of many strategies to increase customer willingness to stay loyal in particular retail fuel's brand is to implement a loyalty program within digital payment app. There is a quite big gap of numbers between registered users and active users, where active user numbers are much smaller than the registered user's, in this digital payment and loyalty program app. This study investigates the role of user experience in evoking emotional relation which predicts continued usage intention for digital payment applications using the theoretical lens of the Pleasure, Arousal and Dominance (PAD) framework. Data were collected from active users of digital payment app. Findings indicate that app experiences generate pleasure, arousal, and dominance emotions among active users of the app. The study has implications for academicians, oil & gas companies, app designers, and other app-based business as it proves significance of a user experience in app on evoking positive PAD emotions in customers and strengthen the explanation of continued usage intentions.

Keywords: user experience, pleasure-arousal-dominance, continued usage intention, digital payment, product management

1. Introduction

The COVID-19 pandemic has changed people of Indonesia's behaviour while doing transaction. Based on Bank Indonesia's report [1], the amount of digital money in circulation from 2015 to September 2021 is increasing exponentially. The exponential increase occurred in 2020 which amounted to Rp. 432,281,380,-. The upsurge amount of digital money in circulation is influenced by the COVID-19 pandemic in late 2019 or early 2020. People have changed their behavior while doing transaction.

On other hand, fuel retail is one industry that has had a major impact on cashless payments in recent years. Around 72% of people in the UK prefer to make payments via mobile apps like Apple Pay or credit card rather than cash. Roughly, around 63% of people in the UK say they prefer the pay at the gas dispenser over the cashier. In addition, 76% of people would be happy to buy in a certain brand of gas or from a certain station if they are offered with reward points [2].

Shell and ExxonMobil, the two largest players in the world's fuel industry, launched their mobile app that allows customers to pay for gas directly from their car. The fuel retail business has changed over the years. Non-cash payments in gas stations are slowly dominating all gas stations which used to only have cash as a means of payment [3].

In an effort to improve public services, PT Pertamina along with PT Telkom Indonesia Tbk (Telkom) are digitizing gas stations throughout Indonesia. With the digitization of gas stations, Pertamina can monitor fuel stocks, sales, and payment transactions at gas stations [4].

MyPertamina is a digital payment app developed by Pertamina, a member of State-Owned Enterprises (BUMN), that is integrated with another digital wallet app. This app is used for non-cash payments for fuel oil at Pertamina's gas stations. The application was developed in August 2017. MyPertamina has three main functions which are; for digital payment which integrated with LinkAja, digital wallet app, to claim points

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every time customers make gas and Liquefied Petroleum Gas (LPG) transactions, and to redeem points with vouchers. By September 2021, MyPertamina loyalty program has around 17 million members and since the development of the application, a total of almost 3 million people has downloaded the application.

The average number of active users from December 2019 to September 2021 was 277,134 users from 17 million registered users, which is around 0.015% of the total registered users. The number of active users is based on user activity in using the application to make transactions in the form of payments at gas stations or exchanging points for vouchers.

This study attempts to get a better point of view of customers behaviours and answers a research question. What are the important aspects of user experience according to customer's emotional attachment of an app that could have users to continue their usage? Through this question, the study adopts Pleasure, Arousal and Dominance theory to understand user experience's perspective from emotional understanding.

2. Literature Review

2.1. Digital Payment App

The use of smartphones has changed the behaviour of millions of people around the world. Due to its multiple functions, the use of smartphones among consumers has increased exponentially. A report by the Global Association of Mobile Operators shows that mobile phone users will exceed 5 billion worldwide in 2020. More than 3.7 billion mobile phone users use the internet, and more than 12 million people use internet of things connection [5]. At the end of 2019, there were 2.8 billion cellular service users in Asia Pacific, which amounted to 66% of the population in Asia Pacific. With nearly 500 million new customers added since 2014, the Asia Pacific region is the fastest growing region in the world and is home to more than half of total global customers. Asia Pacific will have the three largest smartphone markets by 2025, namely China with 1,492 million users, India with 1,041 million users, and Indonesia with 351 million users [5].

Building digital services is a big challenge faced by most online vendors, especially in developing user trust [6]. Broadly speaking, the emotional dimension of products and services is a determinant of users' emotional relatedness and has been the focus of many researchers in the innovation product design literature [7]. In designing a product, the level of deep interaction in emotional design is the most immediate and irresistible thing [8]. A digital service design is expected to have a product display that can build emotional relatedness and attachment to its users.

A study [9] explains that there are many choices of applications circulating in the digital market, making it difficult to create such interest in a particular app. Apart from retaining current users, mobile apps must be able to position themselves well to acquire new users. The research shows that engagement with mobile apps is very important so that users can continue to use them until they recommend the app, and leave a positive impression. Thus, driving engagement among mobile app users is critical for marketers and developers alike.

2.2. Pleasure-Arousal-Dominance Theory

Mehrabian & Russell [10] describes the theory of PAD (Pleasure – Arousal - Dominance) from the perspective of environmental psychology to understand a person's emotions that will influence judgments and responses. They propose a Stimulus-Organism-Response (S-O-R) paradigm, postulating that three basic emotional states mediate approach-avoidance behaviour in environmental situations. They assert that in any environment, arousal cues from environmental conditions can produce emotional states in individuals that can be characterized according to the three dimensions of PAD (Pleasure – Arousal – Dominance). When the emotional state of PAD is established, individuals are more likely to adopt a behaviour in an environment. Pleasure describes the extent to which an individual feels happy, happy, or satisfied with the environment. Arousal indicates the degree to which an individual feels excited, stimulated, alert, or active in a situation. Dominance indicates the extent to which an individual feels in control or free to act in a situation.

Computer websites and mobile apps are similar in how users search for information, but they may show significant differences in the impact of environmental cues. Smartphones have small screens, and present a bigger challenge for creating engagement through branded apps. However, mobile devices provide a unique setting because of their personal nature and portability [11].

A study [11] investigated the implications of app branding related to continued usage intention and brand loyalty by users towards the app. The results suggest that all three PAD emotions can generate brand loyalty and sustained intention, which further broadens the understanding of the PAD model in the context of branded applications.

A study [12] investigated the intended use of a Food Delivery Application (FDA) during the COVID-19 pandemic. This study aims to find out the role of the aesthetic appeal of emotional attachment in app use during the COVID-19 pandemic, the role of Pleasure, Arousal, and Dominance in influencing consumers' continued use intentions, and the role of emotional mediation. The results reveal that FDA aesthetics evokes a series of consumer emotional attachments to using FDA during the COVID-19 pandemic and influences continued use intentions towards FDA.

Table 1: Brief Description of Relevance Studies

Variables	Description	Prior Studies
Functional Experience	User experience based on usability objects that can help users move towards goals	(Huang et al., 2017)
Hedonic Experience	The user experience is based on the environment of the object that influences the user to move towards the goal	(Huang et al., 2017)
Pleasure	The extent to which individuals feel happy, happy, or satisfied with their environment	(Loureiro, 2020); (Kumar & Shah., 2021)
Arousal	The degree to which the individual feels excited, stimulated, alert, or active in a situation	(Loureiro, 2020); (Kumar & Shah., 2021)
Dominance	The state of the individual feeling in control or free to act in a situation	(Loureiro, 2020); (Kumar & Shah., 2021)
Continued Usage Intention	The extent to which the user has made plans to revisit and use the application in the future	(Wang et al., 2019); (Yang et al., 2020)

Preliminary literature on PAD theory in various contexts of technology use and behaviour. For example, experts suggest that dominance and arousal are associated with pleasure that affects attitudes and usage intentions in the Facebook context [13], purchase intentions in the context of the online retail environment [11], continued use intentions towards luxury clothing [14] and related websites [15], search and purchase behaviour for online websites [16], and overall satisfaction and recommendations [17]. Studies also show that individually each of these emotions significantly influences word-of-mouth behaviour in the context of online gaming [18], intentions and attitudes to destination websites [19], and love of the site. web. The role of appearance and aesthetic appeal on the emotional relevance of using FDA applications during a [12]. Based on the existing literature, PAD theory has the ability to map an individual's emotional perspective on the environment, both online and in real life.

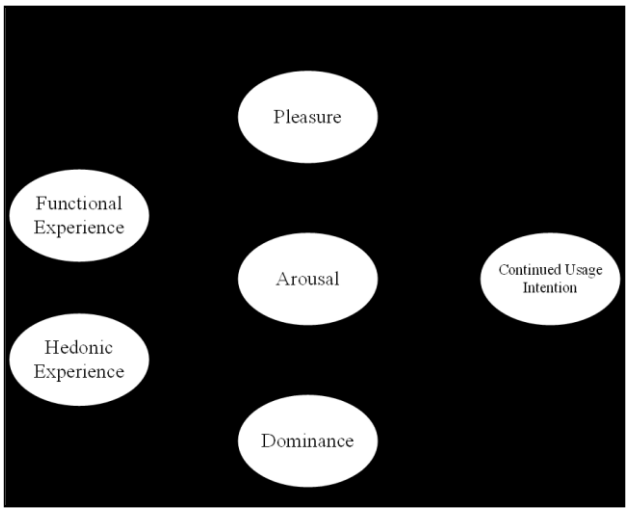

Fig. 1: Research Model

3. Research Hypothesis

3.1. Functional Experience

Functional Experience in mobile application is measured by the utilization of user experience from in-app interactions. Mobile application is systems with a high level of interaction. A good functional experience makes users excited to use the mobile application [18]. A good functional experience makes users feel satisfied and excited to use the application [20]. A good functional experience also makes it easier for users to use the application [18]. The virtual atmosphere cues are categorized into three parts, namely, design, layout, and information, which allows the user to ease their experience while navigating digital objects. Virtual atmospheric cues influence emotions, such as pleasure and arousal [21]. It can be assumed that user experience can influence emotions.

- H1. Functional Experience has a significant effect on Pleasure
- H2. Functional Experience has a significant effect on Arousal
- H3. Functional Experience has a significant effect on Dominance

3.2. Hedonic Experience

Hedonic Experience is the influence of external cues on individuals that affect user's receptors to move towards their goal. The context of the hedonic experience affects the individual's emotional state such as being active, calm, cheerful, happy, aroused, and excited [18]. Pleasure and arousal are largely different from hedonic experiences. According to literature, pleasure is a feeling that ranges from excruciating pain to immense happiness; Arousal refers to a person's level of excitement and arousal [10], which is internal to the consumer. On the other hand, hedonic experiences come from external contexts [22]. Goulding [23] states that the environmental atmosphere of a museum creates emotional attachment to visitors and influences their behavioral intentions, such as if the environment looks difficult it will make visitors feel angry and stressed out. A digital environment that is easy to control and understand will make users feel familiar and satisfied in completing their work [18].

- H4: Hedonic Experience has a significant effect on Pleasure
- H5: Hedonic Experience has a significant effect on Arousal
- H6: Hedonic Experience has a significant effect on Dominance

3.3. Pleasure and Continued Usage Intention

Pleasure refers to the attitude, word-of-mouth, and behavioural intentions of the user. Miniero et al. [17] concluded that pleasure leads to satisfaction and recommendations from users. Pleasure refers to the extent to which consumers feel happy or happy when using an application [18]. From this, satisfied and happy users will be likely to use the application again.

- H7. Pleasure has a significant effect on the intention of continued use

3.4. Arousal and Continued Usage Intention

Arousal (Arousal) refers to the extent to which individuals feel stimulated to use the application [17]. Experts suggest that arousal positively affects cognitive processing, attraction, and activation. From this, users can be moved by the advantages of digital payment applications where users want to experience the use again with continued usage intentions.

- H8. Arousal has a significant effect on the intention to continue use

3.5. Dominance and Continued Usage Intention

Dominance is an emotional condition that refers to the extent to which individuals believe they are in control of their environment [17]. Huang [18] finds support for a positive relationship between dominance and word-of-mouth for online gaming. In the context of a food delivery application (FDA), Kumar & Shah [12], use the hypothesis that customers will appreciate the dominance conditions under which the FDA is designed for users to make transactions easily and conveniently. Based on this, it can be assumed that in digital payment applications, users will get a similar experience.

- H9. Dominance has a significant effect on the intention of continued use.

3.6. Mediation Effect of Pleasure, Arousal, and Dominance

Beside direct effects, this study also explore the mediating effects of pleasure, arousal, and dominance on the associations between functional experience, hedonic experience, and continued usage intention. Previously, it was explored the relationship proposed in this research model (Fig. 1) as a direct effect. This research proposes to study the emotion-mediated effects of PAD on the proposed relationship. Work for the analysis of mediating effects was guided by previous studies confirming the mediating role of emotion on the relationship between website atmosphere variables and outcome variables [15], [18]. Researches showed that PAD emotions will mediate the relationship between functional experience and hedonic experience as an input variable and consumers' continued use intentions as an outcome variable.

- H10a: Functional Experience significantly affects Continued Usage Intention with Pleasure mediation
- H10b: Functional Experience significantly affects Continued Usage Intention with Arousal mediation
- H10c: Functional Experience significantly affects Continued Usage Intention with Dominance mediation
- H11a: Hedonic Experience significantly affects Continued Usage Intention with mediation Pleasure
- H11b: Hedonic Experience significantly affects Continued Usage Intention with mediation Arousal
- H11c: Hedonic Experience significantly affects Continued Usage Intention with mediation Dominance

4. Research and Methodology

4.1. Survey Design

The survey has been conducted for two months around December 2021 and January 2022. The survey instruments are based on preestablished scales from previous studies such as Functional Experience from Huang et al [18], pleasure, arousal and dominance from Shah & Kumar [12] and continued usage intentions from Yang et al. [15]. The survey utilized a five-point Likert's scale to collect the response in which 1 refers to strongly disagree and 5 refers to strongly agree. After preparing the survey and conceptualizing the questionnaire for digital payment purpose, the instruments were validated by two experts of digital payment analysts with more than 5 years of experience in UX design. The proposed model is considered valid by the experts and representing the journey of retention with the mediation of PAD emotions.

4.2. Data Collection and Demographic Information

The surveys were circulated through online medium such as instant messengers and social media platform because on-site observation and offline interview were not possible during the time. The sample targets are active users of the app for the last few months. Respondents were from anywhere across Indonesia.

Table 2: Demographic Profile

Profile	N	%	Cumulative Percentage
Gender			
Male	106	90.6%	90.6%
Female	11	9.4%	100%
Age			
18-25	11	9.4%	9.4%
26-44	68	58.1%	67.5%
45-60	38	32.5%	100%
Education			
High School Diploma	6	5.1%	5.1%
Associate Degree	13	11.1%	16.2%
Bachelor Degree	77	65.8%	82.1%
Post-graduate Degree	21	17.9%	100%

The response rate was 57.3% which 117 valid responses out of 204 collected responses. The demographic and socioeconomics profiles (Table 2) of the samples indicated 90.6% of the respondents are male and the rest are females. Major proportion (58.1%) of the app users were between 26-44 years old, 32.5% were between 45-60 years old, and 9.4% were between 18-25 years old. From the respondents, 65.8% completed bachelor degree, 17.9% completed associate degree, 11.1% finished post-graduate degree, and the rest only have high school diploma.

4.3. Testing Questionnaire Validity

Questionnaire validity test is a method used to test whether the questionnaire used can be used as a valid measuring instrument in a study. Of the 15 questions given to the respondents, the validity test was carried out using the Kaiser Meyer-Olkin (KMO) analysis method and Bartlett's test.

According to Ghozali [24], a questionnaire is valid if the results of the Kaiser Meyer-Olkin (KMO) analysis have a value of $\geqslant 0.05$ and the value of Bartlett's test $\leqslant 0.05$. In this validity test, the test is carried out on each group of questions that exist in each construct variable. From the results of the validity test on 15 questionnaire questions, the Kaiser Meyer-Olkin (KMO) value was $\geqslant 0.05$ and the value of Bartlett's test $\leqslant 0.05$. In other words, the questionnaire used is considered valid as a measuring instrument for each of the construct variables in the model.

4.4. Testing Questionnaire Reliability

Reliability test is a test to see how far the confidence index of a measuring instrument can be used as a measuring tool if it is used repeatedly in a study [24]. In other words, the questionnaire reliability test is a test to see the confidence level index of the questionnaire can be used as a measuring tool in research.

Table 3: Factor Loadings of Items

Study Measures	ID	Measurement Items	Loading value
Functional Experience	FX1	I think this application is simple and easy to use	0.798
	FX2	I think this app is giving a good user experience	0.889
	FX3	I think this app is working fine	0.876
Hedonic Experience	HX1	I think this app is useful for me	0.911
	HX2	I think this app meets my	0.927

		needs	
Pleasure	P1	I feel joyful when I use this app	0.913
	P2	I feel pleasure after using this application	0.910
	P3	I feel helped by using this application	0.928
Arousal	A1	I feel compelled to use the app	0.938
	A2	I feel excited to use this app	0.935
Dominance	D1	I can adjust the app according to my needs	0.936
	D2	I can adjust how much information I want to know	0.921
Continued Usage Intention	C1	I intend to re-open this app	0.943
	C2	I intend to return to using this app	0.960
	C3	I intend to return to using this app in the future	0.925

According to Ghozali [24], a questionnaire can be said to be reliable if the value of Cronbach's alpha reliability test results $\geqslant 0.5$. This research to determine the value of the alpha index was carried out as a basis for the analysis of the statistical internal structure test [25]. Calculations with this analysis are very suitable for testing random sample sizes.

From the results of the reliability test on 15 questionnaire questions, it was found that the overall index value of Cronbach's alpha $\geqslant 0.05$. In other words, the questionnaires used in the study is considered reliable as a measuring tool for each construct in the model.

The results provide evidence that this study is well within the acceptable limit and allowed to proceed with further analysis.

5. Results

Relevant structural equation model (SEM) was examined to find the relationship among the constructs. SPSS 19.0 and Smart PLS 3.0 software packages were applied for statistical analysis.

Table 4: Validity and Reliability Analysis

	α	CR	AVE	A	C	D	FX	HX	P
A	0.818	0.891	0.731	0.936					
C	0.905	0.941	0.841	0.774	0.943				
D	0.816	0.916	0.844	0.551	0.520	0.929			
FX	0.859	0.934	0.876	0.503	0.532	0.556	0.855		
HX	0.937	0.960	0.889	0.688	0.638	0.565	0.648	0.919	
P	0.841	0.926	0.863	0.716	0.694	0.658	0.654	0.809	0.917

5.1. Measurement Model

The measurement model was analyzed to check its reliability and validity of constructs. All of the items' loading factor scores of this study are above 0.7 (Table 4) which is higher than the threshold value of 0.6 [26]. Composite Reliability (CR) values and Average Variance Explained (AVE) are all higher than the acceptable limit of 0.7 and 0.5 respectively (Table 4) [26]. It can be confirmed that the measures for testing the proposed model meet the internal reliability and convergent validity criteria.

To establish discriminant validity, the research also analysed by using Fornell and Larcker [27] table (Table 4). It is found that the square root values of AVE (diagonals) are higher than the inter-construct correlational values (on the left of diagonals) [28], which confirm that the model met the conditions for discriminant validity.

5.2. Analysing the Structural Model

The structural model is observed and analyzed to test the proposed hypotheses. Model fit analysis is an analysis obtained from the results of seeing the level of ability of the model that is built as a whole. This value is often referred to as the goodness of fit or normed fit index which represents the percentage of the model being built. The goodness of fit indices (i.e., SRMR = 0.056, d_ULS = 0.374, d_G = 0,389, Chi^2 = 291.541, NFI = 0,807) are acceptable as per recommended standard (Hair et al., 2011).

Results indicated that Functional Experience has a significant effect on Pleasure (H1: $\beta = 2.675$, $p = 0.008$) and Dominance (H3: $\beta = 2.826$, $p = 0.005$). Hedonic Experience has a significant effect on Pleasure (H4: $\beta = 9.047$, $p = 0.000$), Arousal (H5: $\beta = 6.240$, $p = 0.000$) and Dominance (H6: $\beta = 3.308$, $p = 0.001$). Pleasure has a significant effect on Continued Usage Intention (H7: $\beta = 2.136$, $p = 0.033$). Arousal has a significant effect on Continued Usage Intention (H8: $\beta = 4.800$, $p = 0.000$).

The research findings support most proposed hypotheses (H1, H3, H4, H5, H6, H7, and H8), except H2 and H9 (Table 5). Functional Experience has a positive effect on Arousal, but not as significant (H2: $\beta = 0.746$, $p = 0.456$). Dominance has a positive effect on Continued Usage Intention, but not as significant (H9: $\beta = 0.279$, $p = 0.780$). Results show the model explains 68.3% variance for Pleasure, 47.9% variance for Arousal, 38.1% variance for Dominance and 64% variance for Continued Usage Intention.

Table 5: Results of Hypotheses

Path Hypothesis	β	Significance	Support
H1: Functional Experience -> Pleasure	2.675	0.008	Yes
H2: Functional Experience -> Arousal	0.746	0.456	No
H3: Functional Experience -> Dominance	2.826	0.005	Yes
H4: Hedonic Experience -> Pleasure	9.047	0.000	Yes
H5: Hedonic Experience -> Arousal	6.240	0.000	Yes
H6: Hedonic Experience -> Dominance	3.308	0.001	Yes
H7: Pleasure -> Continued Usage Intention	2.136	0.033	Yes
H8: Arousal -> Continued Usage Intention	4.800	0.000	Yes
H9: Dominance -> Continued Usage Intention	0.279	0.780	No

5.3. Mediation Analysis

Furthermore, the research examined the mediating effect of emotions (PAD). The associations between Functional Experience, Hedonic Experience, Pleasure, Arousal, Dominance and Continued Usage Intention are tested and analyzed. The study used bootstrapping to check the significant mediators.

The results (Table 6) show Functional Experience has a positive but not significant direct effect to Continued Usage Intention ($\beta = 1.333$, $p = 0.183$). Hedonic Experience has a positive and significant direct effect to Continued Usage Intention ($\beta = 7.476$, $p = 0.000$). The tests identify each mediator in the model for better understanding. The results show Hedonic Experience significantly affects Continued Usage Intention with mediation of Pleasure (H11a: $\beta = 1.985$, $p = 0.041$). Hedonic Experience significantly affects Continued Usage Intention with mediation of Arousal (H11b: $\beta = 3.994$, $p = 0.000$). Results significantly support H11a and H11b respectively, but not for other mediation hypotheses. Both of these hypotheses were formulated to represent the relationship between Hedonic Experience and Continued Usage Intention among active users. PAD emotions significantly mediate the relationship between Hedonic Experience and Continued Usage Intention, but not Functional Experience.

Table 6: Results of Mediation Analysis

Path	T Statistics (|O/STDEV|)	Significance	Support
H10a: (FX) -> (P) -> (C)	1.670	0.096	No
H10b: (FX) -> (A) -> (C)	0.767	0.444	No
H10c: (FX) ->(D) -> (C)	0.252	0.802	No
H11a: (HX) ->(P) -> (C)	1.985	0.048	Yes
H11b: (HX) -> (A) -> (C)	3.994	0.000	Yes
H11c: (HX) -> (D) -> (C)	0.268	0.789	No

Prior studies [12], [18], [29] have showed there is no influence of age, gender, income, and educational background.

6. Discussion

Emotions are extensive and vast in different fields. Emotional branding is used to latch continued usage intentions among consumers [15]. Virtual atmospheric cues have an impact on emotions of customers [19]. App aesthetics influence and evoke the user's emotions such as pleasure, arousal and dominance [12]. Functional experience has positive and significant effect on pleasure and dominance, while hedonic experience has positive and significant effect on pleasure, arousal and dominance [18].

The findings of this study implied functional experience is strongly associated with pleasure (H1) and dominance (H3) which is consistent with the previous researches [18], [30]. Functional experience is about utilization of in-app interactions and will evoke emotions within the user. The app is able to utilize the users' needs, thus it's evoking emotional pleasure as the app helps users to reach their goal which is making a cashless and quicker transaction method. Users find the app functions are useful for them to reach their goal. The app is easy to use for all segment of user as they are evoking emotional dominance within this app. Users find this app main function is easily understandable and trustworthy enough for the users to use the app. This study could not find strong association between Functional experience and arousal (H2) which is consistent with the previous researches [18]. Evoked emotional arousal functional experience from the app has a positive effect to users, but not as significant. This is understandable and aligned with the functions of mobile digital payment app. Digital payment app often uses for scanning and paying. Users don't feel the need to linger in-app because their goal has been fulfilled the moment their transaction is finished.

The findings of this study implied hedonic experience is strongly associated with all three dimensions of emotion (pleasure, arousal and dominance) (H4, H5, H6) which is consistent with the previous researches [12], [18], [31], [32]. Hedonic Experience is about surrounding's influence on the users that affect user's receptors to move towards their goal. From hedonic experience perspective, users are pleased by the app's environmental cues as they help the user to pay. Environment of this app have been well developed in order to fulfill the user's satisfaction. Users are also stimulated by the ques and signages in this app thus evoking emotional arousal for the app. The app has a good interface for the users as the it is helpful for them not getting lost. Continuing from the previous statement, the app also is evoking sense of dominance to the users as information of this app are quite understandable, thus users are able to choose and utilize as much information they are needed and wanted without them being controlled. This app lets the users have perceived emotional dominance over the app.

The findings of this study implied pleasure (H7) and arousal (H8) are strongly associated with continued usage intention which is consistent with the previous research [18]. A digital app is systems with a high level of interaction and it supposed to help users to ease their tasks. The study finds users will go back and use the app as they feel pleased by easier task to perform. The study also finds users will feel aroused to use this app again thus reinforcing their intention to continue using this app. This study couldn't find strong association between dominance and continued usage intention (H9). App with a strong dominance influence often found in ecommerce and food delivery apps [11], [12], [15], [18], [33], [34], [35]. Users don't spend too much time while using digital payment app because direct payment has always been simple, while strong dominance influence app often engage users to spend more time in app. The keyword of strong dominance influence app

itself is browsing.

Apart from direct effects, the study also examined the mediating role of emotions on continued usage intention. Findings suggest that pleasure mediates a strong association between hedonic experience and continued usage intention (H11a). Hedonic experience from the users suggests it is evoking sense of pleasure towards the users, thus it motivates them to continue using the app. Findings also suggest that arousal mediates a strong association between hedonic experience and continued usage intention (H11b). Hedonic experience from the users suggests it is evoking sense of arousal and stimulation by helping the users' new behavior for better cashless payment to use the app again, thus it is motivating them to continue using the app.

6.1. Theoretical Implication

The research offers several contributions for literature. First, the study investigates the relationship between user experience and digital payment app followed by emotional factors that determining continued usage intention. More importantly, user experience is investigated as multidimensional construct, yet prior researches mostly considered user experience as a single dimensional construct. Thus, this study contributes to the literature of human computer interaction and product development as well. Furthermore, this study is conducted in Indonesia which has only one digital payment app for gas station. Thus, these findings contribute the behavioral implications for Indonesians' retention on digital payment app.

Second, the study adopts pleasure, arousal, and dominance theory to investigate the influence of app's user experience in the context of digital payment app. PAD theory states that evoked emotions due to environmental stimulus can be categorized into three fundamental emotions such as pleasure, arousal and dominance [12], [18]. The findings of this study confirm the influence of pleasure, arousal, and dominance in digital payment app. This study investigates that functional experience and hedonic experience of the app create a virtual situation and act as external stimuli to generate emotions such as pleasure, arousal, and dominance. The proposed inclusive model adds to the limited user experience researches on digital payment app.

Third, this study extends understanding on how user experience also contributes and influences continued usage intention under emotional influence. There are limited studies regarding the use of PAD theory on user experience to explore continued usage intention. This research indicates on how users feel about retention on certain apps and how an app can influence them. Prior researches argue about how brands influence emotions [15], [35], [36], thus this study examined specifically on how a single and popular brand is able to keep users for using this app.

6.2. Practical Implication

This study provides app developers and product managers with several important implications to design a digital payment app. Many organizations and managers have decided to make a transition to app-based services. The growth of digital as a channel has increased manifold [12]. These practical implications could help app developers and product managers to understand more about their product.

First, the findings indicate product development team should pay attention to factors that will influence user's retention. There are crucial roles regarding user experience to the customers. App developers and product managers should focus on developing well designed and helpful apps. Customer engagement, navigation and data usage should be used to continuously improve the app. App developers should better understand design aspects that would evoke customer's emotions. Managers should get better understanding regarding clear, clean and simple design rather than overwhelming functionality on the app.

Second, findings indicate functional experience evoke emotional excitement and control among customers. As it was stated previously, digital payment app is a simple quick solution for customers to use. It doesn't have to be complicated and stimulating for users. The app just needs its functionality to be clear and ease to use.

Third, findings indicate hedonic experience evoke emotional excitement, stimulation and control. The environments of the app would excite and influence customers to use the app. Furthermore, well developed, clean, symmetrical readable cues and signs would engage customers further to quickly adapt using the app.

Ease of use and high usability app would evoke sense of trust from the customers to gain even more retention rates.

7. Limitations and Future Research

This study has several limitations to be considered for future study. This study only examined influence of user experience to user's retention under their emotional relatedness of a digital payment app. The new behavioral patterns surfaced in the midst of COVID-19 pandemic is an interesting issue, thus future research should investigate post-pandemic customer behavior patterns. Second, this study investigates customer's retention in context of digital payment app. Future research can explore more regarding how its interface can influence the retention. Future research can also investigate the influence beside retentions such as word-of-mouth or brand loyalty. Third, data collected through self-reported survey and may limit the generalized study. Future research should incorporate the limitation further.

8. Conclusion

This study tries to understand customer's emotional attachment of an app from user experience's perspective under emotional influence. There are three main point of views in this study which are: (a) role of functional experience and hedonic experience in evoking emotions among users, (b) the role of PAD emotions that influence continued usage intention of customers, and (c) the mediating role of emotions towards continued usage intention. The findings show functional experience has significant influence towards emotional pleasure and dominance. On the other hand, hedonic experience has significant influence towards all aspect of emotions. Furthermore, mediating emotions towards continued usage intention has been investigated and the results are pleasure and arousal are mediating hedonic experience into continued usage intention. Thus, this study offers multiple novel contributions to literatures and developers of human computer interactions.

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