The Effect of Flow Factor on Brand Attitude and Purchase Intention in Mobile Legend: Bang-Bang

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Article Info	Abstract
	Purpose: This research aims to analyze the influence of flow antecedents, which can elicit brand attitudes and purchase intentions. Method: By design, this research is included in causal research, which aims to examine causal relationships between variables. The scale used is an interval of 7 points. The target population is active mobile legends: Bang-bang players who play at least two games daily. The player must have purchased at least two items in the last six months and be 17 years old. Purchase decisions must be made with the player's considerations. The number of samples collected was 300 respondents. The sampling technique used is non-probability sampling with a purposive sampling method. The analysis technique used is structural equation modeling with two stages. The analysis technique used is structural equation modeling with two stages. Hypothesis testing uses a t-test with an alpha of 10%. Result: Only skills that do not contribute to the formation of flow. This result is in line with previous research, so the role of skill as an antecedent need to be studied further. Flow has been shown to shape brand attitudes and purchase intentions.

INTRODUCTION

Current technological developments have entered various aspects of human life. One of the most rapid technological developments is the smartphone. From 1983, when the first mobile phone was launched, until nine years later, the first smartphone became known to the market in 1992 (Tocci, 2023). One feature that is developing along with this technology is mobile gaming. Mobile gaming has been known since 1997, and at first, it was just an additional feature on mobile phones. Currently, the game industry has grown to a value of 100 billion USD (Tocci, 2023). The increasing number of technology users, such as smartphones, has resulted in many developers from game companies competing to innovate in the design, character, and gameplay that are made in such a way that aims to attract players to play games that the developers have made of the game. Developers have made many changes in making games, such as the NPC game genre, arcade, role model player, and multiplayer one battle

arena, which originally only existed on game consoles and computers but now can be played on smartphones. Many adapted games that originally could only be played on game consoles and computers can now be played on smartphones, and there are even games created specifically to be played on smartphones called multiplayer online one battle arena (MOBA) mobile.

Apart from thinking about the flow of the game, game developers also added several attributes that aim to attract players to buy it. Usually, the attributes created by the developer aim to beautify the avatar/hero of the game played by the players. Attributes created by developers include skin, VIP weekly, battle pass, and recall. This purchase is made with valid in-game currency only. When players want to buy the desired attribute, they must exchange money at the shop/money changer in the game. The game developer determines the exchange rate. Apart from purchasing, these additional attributes can also be obtained through gift programs provided by several stores.

Mobile games have become a very big phenomenon recently. This game was released for Android platforms on July 14, 2016, followed by an iOS release on November 9, 2016 (Lele, 2020). According to a Sensor Tower report from January, since 2016, Mobile Legends has accumulated 281.3 million downloads, with 212.1 million, or 75%, originating from Asia. The top country for downloads was Indonesia, racking up 100.1 million, or 36% of total unique installations. The Philippines ranked No.2 with 41.2 million downloads or 15%, while Vietnam ranked No.3 with 21.3 million installations or 8% of the total (Lele, 2020). In 2020, Mobile Legend: Bang-Bang is also ranked second with the player/user who is the most active in playing the application and is ranked as the two applications that most often make consumers spend money (Kemp, 2021).

The term advergame itself consists of 2 words: advertisement and videogame (Grossman, 2005). This term refers to delivering advertisement messages through an electronic game (Hernandez, 2011). Advergames are usually casual games that can be played quickly and in short breaks (Terlutter & Capella, 2013; Redondo, 2012). Mobile Legend is one of the biggest games in 2022, played by 80.76 million active players worldwide. This game alone earned US$ 215.99 million in revenue in 2022 (Rizaty, 2023). On average, one mobile legend game will take around 10 to 15 minutes (Nugraha, 2022), so this game can be included in the light game category to fill short breaks and enter the advergame category.

This study uses Catalán et al. (2019a) as a reference due to several results differences from Catalán et al. (2019b) and Liu (2017). In the study of Catalán et al. (2019b), they found that the effect of flow on brand attitudes is not significant. However, Liu (2017) found that a player's skill affects flow. These two research findings are different from Catalán et al. (2019a). Based on these previous studies, it can be seen that there are two research gaps. Therefore, this study also aims to confirm the relationship between skill and flow and the relationship between flow and brand attitude, especially in the Mobile Legend game. This research was conducted within the scope of game players in Surabaya. This research is because data from Moonton shows that 52.65% of players come from Java, especially big cities like Jakarta, Surabaya, and Yogyakarta. Surabaya was also chosen as the venue for the MABAR All-Star event in 2023 (Basudewa, 2023).

Flow theory was originally intended to explain how someone feels enjoyment. Someone who enjoys movies, music, or playing games can flow in an atmosphere and have real experiences. Csikszentmihalyi (1975) investigated why some people, such as climbers or gamers, were willing to invest significant time and effort in activities that offered no external reward or little material incentive. as artists, musicians, and athletes – feel a sense of flow or deep engagement when they are doing their work. He found that they can enter this state when faced with a challenge that is neither too easy nor too difficult for them and when they can fully

concentrate on the task. In simpler terms, Csikszentmihalyi (1975) studied why people like artists or athletes feel focused and engaged in their work. He discovered that this happens when they have a challenge that is just the right level for them and when they can concentrate on what they are doing. These activities have been characterized as autotelic (from Greek auto self, telos goal) or intrinsically motivating, and the optimal experience resulting from the performance of these activities has been termed flow (Csikszentmihalyi, 1975). Mobile advergames are a form of entertainment, so they are important to generate a significant level of enjoyment (Peters & Leshner, 2013).

Hoffman and Novak (1996) proposed a flow model for the online context. In particular, Hoffman and Novak (1996) conceptualized flow as a cognitive state governed by high levels of ability and control, high levels of challenge and arousal, focused attention, interactivity, and telepresence. Based on the conceptual flow model by Hoffman and Novak (1996), Novak et al. (2000) tested it empirically and found direct pathways to the flow of skill, challenge, telepresence, and interactivity, and indirectly of focused attention through telepresence.

The more proficient the skill, the more impact it will have on flow (Novak et al., 2000). Someone with very good skills will increasingly feel the flow of the game. The same thing happens with the effect of challenges on flow. The bigger the challenge, the stronger the game flow (Novak et al., 2000). This argument leads to the following hypotheses. *Skills* are defined as the consumer's capacities for action, and *challenges* are the opportunities for action available to the consumer in a computer-mediated environment (CME) (Hoffman & Novak, 1996).

H1: Skill positively affects the flow in the Mobile Legends: Bang-Bang application player in Surabaya.

H2: Challenges positively affect the flow in the Mobile Legends: Bang-Bang application player in Surabaya.

Interactivity has received much attention in the human-computer interaction (HCI) literature (Shneiderman et al., 1998). One of the advantages of today's games is in terms of interactivity; it is even said that interaction design is an essential part of mobile games (Li, 2023). A website will be successful if it can maintain its interactivity (Csikszentmihalyi, 2009). Players will interact with advertising messages while playing an advergame, making them more engaged. In the advergame, the player could have control of actively viewing the advertising message instead of being passively exposed. (Ping et al., 2010). Interactivity here refers to Steuer (1992), who states that the interactivity of a machine is "the extent to which users can participate in modifying the form and content of a mediated environment in real-time." Based on these arguments, the hypothesis is proposed as follows.

H3: Interactivity positively affects the flow of the Mobile Legend: Bang-Bang application player in Surabaya.

According to Csikszentmihalyi (1975), focused attention is the "centering of attention on a limited stimulus field." Csikszentmihalyi (1975) argued that a person experiences flow when he/she pays focused attention, and he/she experiences more voluntary interests as the level of focused attention increases. Liu and Chang (2016) found that focused attention significantly impacts the flow of mobile gamers. Within a mobile advergaming context, players are focused on playing the advergame, which is expected to increase their propensity to enter a state of flow Catalán et al., (2019a).

H4: Focused attention positively affects the flow of the Mobile Legend: Bang-Bang application player in Surabaya.

Telepresence is the sense of being in a virtual environment, forgetting that sitting in front of a TV or PC (Kim & Biocca, 1997). Telepresence will push a player into a flow state (Pelet et al., 2017). This condition is because computer-mediated games represent the real world so

that players will flow into the game. Based on these arguments, the following hypothesis is proposed.

H5: Telepresence positively affects the flow of the Mobile Legend: Bang-Bang application player in Surabaya.

The flow will present a high psychological state so that it will positively impact product marketing, including a positive attitude (Hoffman & Novak, 1996). In the advergame context, players in a flow state will have a positive attitude toward the game (Ham et al., 2016). Hoffman & Novak(1996) define *flow experience* in a CME as the state occurring during network navigation, which is (1) characterized by a seamless sequence of responses facilitated by machine interactivity, (2) intrinsically enjoyable, (3) accompanied by a loss of self-consciousness, and (4) self-reinforcing. The more a player feels a flowing experience, the higher the interest in buying the advertised product. Experiencing flow while playing the mobile advergame will elicit a pleasurable experience transferred to the brand embedded in the game, favoring more positive attitudes and increasing the intention to purchase the brand (Catalán et al., 2019b). In the flow experience, the gamer will be involved, resulting in a more positive attitude and higher intention to purchase. Hence, we propose hypotheses as follows.

H6: Flow positively affects brand attitude in Mobile Legend: Bang-Bang application players in Surabaya.

H7: Flow positively affects purchase intention in the Mobile Legend: Bang-Bang application player in Surabaya.

The higher brand attitude will lead to higher purchase intention (Morris et al., 2002). Children with a more positive attitude towards an online advergame were likelier to have higher purchase intentions (Vanwesenbeeck et al., 2016). Based on this argumentation, we proposed the hypothesis as follows.

H8: Brand Attitude positively affects purchase intention in the Mobile Legend: Bang-Bang application player in Surabaya.

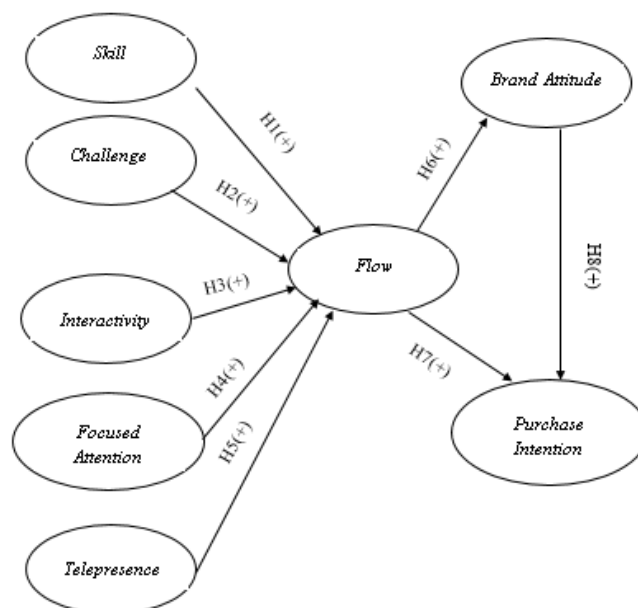All hypotheses and research models can be seen in Figure 1

Figure 1. Research model

RESEARCH METHODS

This research is a basic research category that is intended to test the proposed model. By design, this research is included in causal research, which aims to examine causal relationships between variables. The scale used is an interval of 7 points. All measurements are translated from Catalán et al. (2019b). The translation method used is a parallel translation with two translators. The measurement items are then tested through a pre-test to ensure the respondents understand each item.

The distribution of the questionnaire was carried out online using the Google form. The target population is active mobile legends: Bang-bang players who play at least two games daily. The player must have purchased at least two items in the last six months and be 17 years old. Purchase decisions must be made with the player's considerations. The number of samples collected was 300 respondents. The sampling technique used is non-probability sampling with a purposive sampling method. The analysis technique used is structural equation modeling with two stages. The analysis technique used is structural equation modeling with two stages. Hypothesis testing uses a t-test with an alpha of 10%.

RESULTS & DISCUSSION

The pretest results show that the measurement items have good validity and reliability. The research was continued by distributing questionnaires to 300 respondents. The number of male respondents was 232 (77.3%), while the number of female respondents was 68 (22.7%). Most respondents had at least a high school and bachelor's degree. Most of the respondents work as students and private employees. This condition is understandable because, demographically, the mobile legend game has a segment of young players. Most respondents played 4 to 7 times daily (36.3%), and 22.7% played more than seven times daily. The characteristics of the respondents are indeed intensive mobile legend players. The spending on purchasing items in games ranges from under three hundred thousand rupiahs to under one million rupiahs. It is very rare for players to spend over one million rupiah to purchase items in the game.

The measurement model results show that all indicators have a standard loading above 0.5. The model fit test also shows good indications in terms of CMIN/DF (1.299), RMESA (0.032), CFI (0.973), and TLI (0.968). These results allow the analysis to be continued to the structural model. The structural model shows a good fit test. CMIN/DF values meet the standard (1.518), as well as RMSEA (0.042), GFI (0.907), CFI (0.952), and TLI (0.944). The analysis is continued by looking at the results of hypothesis testing.

Table 1.
Hypothesis testing Result

	Hipotesis	Standardized estimate	p-value	Keterangan
H1	Skill→Flow	0,002	0,977	Not supported
H2	Challenge→Flow	0,130	0,079	Supported
H3	Interactivity→Flow	0,149	0,025	Supported
H4	Focused Attention→Flow	0,116	0,082	Supported
H5	Telepresence→Flow	0,180	0,001	Supported
H6	Flow→Brand Attitude	0,463	***	Supported
H7	Flow→Purchase Intention	0,386	***	Supported
H8	Brand Attitude→Purchase Intention	0,452	***	Supported

Of the eight hypotheses proposed, seven are supported, and only 1 hypothesis is not supported. The unsupported hypothesis is the skill's effect on flow (H1), with a p-value of 0.977.

The test results show that the second hypothesis (H2) is supported with a p-value of 0.079 (0.13). Thus, the challenge has a positive effect on flow. The effect of interactivity on flow in this study proved significant, with a p-value of 0.079 (0.130). The effect of interactivity on flow (H3) in this study is supported (value 0.025; 0.149). These results indicate that the more interactive the game in mobile legend: bang-bang, the more players will follow the game's flow. The greater the focus given by mobile legend, bang-bang players, the greater the flow (H4). The hypothesis test results showed a p-value of 0.082 with a standardized loading of 0.116. Telepresence also significantly affects flow (value 0.001; 0.180), so H5 in this study is supported.

The flow itself has a significant influence both on brand attitudes (value: <0.001; 0.463) and purchase intention (value: <0.001; 0.386). These results support hypotheses 6 and 7. Interestingly, the influence of flow is stronger on brand attitude formation than on purchase intention. The more players follow the game's flow, the more positive the brand attitude is formed. These results also show that brand attitudes towards a game can be formed by creating content that makes players get carried away in the flow. Brand attitude significantly influences purchase intention (value: <0.0001; 0.452), so H8 in this study is supported.

Overall, the results of this study indicate that all flow-forming factors have an effect, except for the player's skill. This result could be due to the characteristics of the respondents who have the habit of playing advergames so that they have above-average skills. From the data released by Moonton, the highest number of mobile legend players come from the island of Java, especially big cities like Jakarta, Surabaya, Bandung, and Yogyakarta. The number of players in this region reaches 52.65% (Pratnyawan & Rachmanta, 2021), which shows that players are used to playing this advergam. Another possibility is that the advergame used in this research has a level of difficulty that can be played with ordinary skills. No training and development of certain skills is required to play.

Of all the factors that construct flow, telepresence is the factor that has the strongest influence. This result shows that game designers must be able to create games that present sensations that excite players to feel like they are in the game. The more a game can make players feel that they are in the game, the stronger the flow will be. Telepresence can be improved by increasing the image quality in the game. The latest developments in hardware technology allow game developers to create games that maximize hardware capabilities by providing the best image quality. The results of previous studies show that display quality improves telepresence (Bracken & Skalski, 2009). An increasingly realistic display will make players feel immersed in the game.

Other results also show that flow can be used to build brand attitudes directly. Companies can take advantage of this condition by creating games with a strong flow so players like the game even more.

CONCLUSION

Of the eight hypotheses, 1 hypothesis is unsupported, and seven are supported. The conclusions from the eight hypotheses are: First, Skill has no effect and is not significant on flow in Mobile Legend: Bang-Bang in Surabaya. Second, The challenge positively and significantly affects the flow in Mobile Legend: Bang-Bang in Surabaya. Third, Interactivity positively and significantly affects Mobile Legend: Bang-Bang in Surabaya flow. Fourth, Focused attention positively and significantly affects the flow in Mobile Legend: Bang-Bang in Surabaya. Fifth, Telepresence positively and significantly affects the Flow in Mobile Legend: Bang-Bang in Surabaya. Sixth, flow positively and significantly affects brand attitude in Mobile Legend: Bang-Bang in Surabaya. Seventh flow positively and significantly affects purchase intention in Mobile Legend: Bang-Bang in Surabaya. Lastly, Brand attitude positively and significantly affects purchase intention in Mobile Legend: Bang-Bang in Surabaya.

This research found that skill does not significantly affect flow, while other factors such as Challenge, Interactivity, Focused Intention, and Telepresence affect flow. The theoretical implication is that the role of skills in forming flow needs to be reviewed. Researchers need to re-examine whether skills are still needed in forming flow in the context of online games.

In practice, game developers need to make games that do not require too much skill and emphasize the presence of real nuances in the game. Developers can also use flow to form a positive brand attitude towards the game being developed. Further research should be attempted for other types of games and the various characteristics of the respondents.

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