THE EFFECT OF QUALITY PERCEPTION, REFERENCE GROUPS AND SALES PROMOTION ON IMPULSE BUYING OF MOBILE LEGENDS ONLINE GAME PLAYERS

Aldrino[1], Mario[2], Jonathan Yohanes[3], Felisca Samatha[4], Falatehan[5]
Musi Charitas Catholic University[1,2,3,4,5]
aldrinochzu76@gmail.com [1], asanmario67@gmail.com [2], jonathan6096.jo@gmail.com [3], Peliska29@gmail.com [4], falatehanhan@gmail.com[5]

Abstract: *Online gaming has become a global phenomenon that affects many aspects of life, including cultural, social and economic. One of the most popular online games is Mobile Legends, which belongs to the Multiplayer Online Battle Arena (MOBA) genre. The game has attracted millions of players around the world, including Indonesia, which accounts for about 50% of the total global players. Mobile Legends offers 5 vs 5 team-based gameplay, where each player controls a character or hero with unique roles and skills. Its popularity is also supported by competitive elements through tournaments and player community groupings. This study aims to explore the influence of Mobile Legends on player behavior, communication patterns, and its impact on learning achievement. The study found that in-game social interactions can create toxic behavior patterns, especially if players are in a negative reference group. Conversely, a positive reference group can provide a constructive influence. In addition, the intensity of playing this game has a significant impact on students' learning achievement. The results show that players who cannot manage their playing time tend to experience a decline in academic performance, while players who can divide their time effectively can benefit from mental relaxation and happiness while playing. Further studies also show that the experience and comfort of playing Mobile Legends influences the intensity of purchasing in-game items. Therefore, further research with a more in-depth approach is needed to explore other factors that play a role in players interaction with the Mobile Legends game.*

Keywords: Mobile Legends, Toxic Behavior, Learning Achievement.

INTRODUCTION

Online game has become an important part of many people's modern lives. Online game has a very interesting cultural, social background to explore behind the stunning graphics and engaging gameplay.Culturally, Online game has evolved into a place where people can collaborate, compete, and interact with players from all over the world. Players can experience things they might not be able to experience in real life through these games, from being a brave knight on the battlefield to exploring the galaxy in outer space. With characters and storylines that have become iconic in mass culture, online games often reflect and even influence popular culture trends.

Online game allows for the formation of strong and socially diverse communities. Players can join squads or other communities that share similar goals. People can build friendships and even professional networks through gaming. Games also often allow players to learn about other people's languages and cultures, which results in invaluable cultural exchange.

However, there is more than just the cultural and social aspects of online gaming that make it so appealing. Outside of the public eye, the online gaming industry is a powerful economic catalyst. Online game generate significant revenue for developers and publishers due to their diverse business models, ranging from in-game purchases to monthly subscriptions. Additionally, as e-sports tournaments grow in popularity, professional players, spectators, sponsors, and many others see new financial opportunities. Online games developed into a global phenomenon that influences many aspects of modern life, including culture and economy. Online games continue to provide immersive experiences for millions of players around the world.

Mobile Legends has become a phenomenon that has rocked the mobile gaming world with its strategic and epic battlefields. The game has become one of the most popular in the MOBA genre, with millions of players participating in epic battles. Every match in Mobile Legends serves as a heroic tale written by the players with every tactic and attack they employ. Every character, from the brave fortress defender to the cunning ranger, has their own characteristics and a distinct role in ensuring their team's victory. However, Mobile Legends Game lies in its exciting gameplay and strong community. Players from all over the world gather from group practice sessions to massive tournaments to show their skills and passion.

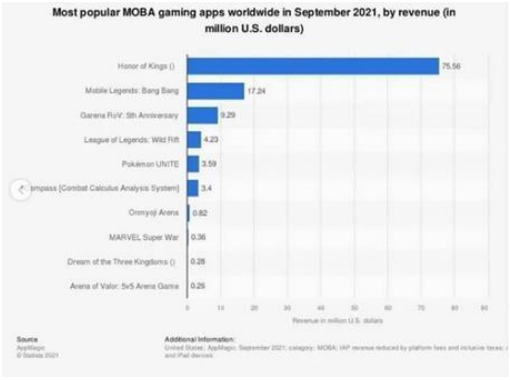

Figure 1 Popular MOBA Games in the World

From the image above, the Mobile Legends game is ranked number 2 as the most in-demand game worldwide.

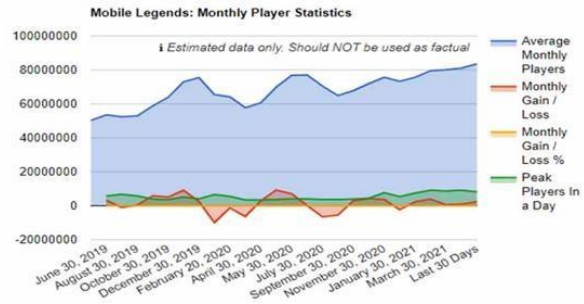

Figure 2 Proof of how many people play Mobile Legends
Source: activeplayer.io 2019-2021

The activeplayer.io site reports that there are 83,000,000 active Mobile Legends players every month worldwide. The chart shows the increasing trend of the number of active Mobile Legends players every month. The site also calculates the estimated number of Mobile Legends players who are already active directly.

Figure 3 Evidence of Mobile Legends players in Indonesia
Source: hitekno.com

Moonton data shows that as many as 34 million active Mobile Legends players every month come from two regions: Java Island (52 percent) and Sumatra (29.38 percent). From the number of active Mobile Legends players every month in Java Island. Well, we can see that the players of this Mobile Legends game are mostly from Indonesia compared to other countries, meaning almost 50% of Indonesian citizens play the Mobile Legends game. Mobile Legends is a Multiplayer Online Battle Arena, or MOBA, game. The main concept of MOBA games is two teams of human players fighting to destroy the opposing team's defenses. The ultimate goal of the game is to destroy the main building, or core, in the opponent's territory. Players choose characters or heroes with various skills and roles to help the team achieve their goals.

Each player in Mobile Legends can control one character or hero when fighting. The outcome can be influenced by the unique abilities these characters have that can be used in battle. The game involves various roles, such as attackers, defenders, healers, and other support roles. In Mobile Legends, battles usually take place in a 5 vs. 5 arena, where each team tries to control the lanes and destroy the enemy's defenses while maintaining its own. Collecting Gold to buy items, leveling up characters, and working with a team are other important components of making a plan. Previous studies have often not explored communication patterns that contribute to toxic behavior. Research by Bachtiar Rizky Alamsyah et al. (2023) focuses on analyzing the content of messages sent by players, which can reveal deeper patterns of toxic behavior within the Reference Group. This study states that reference groups can have a negative effect because if you choose the wrong toxic scope, it will have a negative impact. However, if players find a positive scope, then the effect can be positive.

Although previous studies may have discussed the influence of games in general on the learning process, research by Tamba and Panday (2021) specifically examined the influence of the Mobile Legend game. The results of this study indicate that this game has a significant negative impact on student learning achievement. Tamba and Panday stated that playing Mobile Legends too often can negatively affect learning achievement. However, if players can divide their time well between playing games and studying, the impact can be positive, because players can feel the pleasure of playing games while still studying.

In addition, research by Ramadhan et al. (2024) showed a significant relationship between purchase intensity and involvement. However, this study suggests the need for further studies to explore other variables that may play a role in moderating the relationship, such as player experience and comfort in playing. This study indicates the need for more sophisticated and representative research designs to validate the existing findings. Ramadhan et al. stated that player experience and comfort in playing can have a positive impact, because the perception of good quality will create comfort for players.

METHOD

Types of research

This research uses a quantitative approach that focuses on numbers and data as the main core. In the process, statistical methods are utilized to draw conclusions, in line with Creswell's (2014) statement in his monumental work Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, which emphasizes that quantitative research aims to test temporary assumptions (hypotheses) and gain objective understanding through the collection of magic numbers that are then mathematically concocted. Therefore, this project is categorized as a realistic (empirical) experience-based research, in line with Neuman's (2014) thoughts that emphasize how vital measurable and analyzed data is in exploring empirical phenomena in depth.

Population

The population in this investigation focuses on individuals who play the online game Mobile Legends. Population is defined as all entities, whether humans, animals, events, or objects, that are in a location with a certain plan and become the basis for drawing conclusions from the research results (Sulistiyowati, 2017). In this study, population data was collected through virtual questionnaire distribution, which was disseminated via digital communication platforms such as Line and Twitter. In addition, researchers utilized primary data derived from responses from participants who had knowledge of the Mobile Legends game, understood the existence of sales promotions in the game, and had made purchase transactions in it. The number of participants involved in this study was 167 individuals, who received questionnaires through WhatsApp groups and other social media channels. Researchers managed to collect a total of 167 questionnaires that met the criteria as research samples, with all questionnaires filled in according to the specified requirements.

Sample

To facilitate the research, it is necessary to divide the population into small representatives called samples. According to Sugiyono (2018:131), a sample is part of a population in terms of number and characteristics. In this study, the researcher used a non-probability sampling technique with a purposive sampling approach, which means that the sample was selected based on predetermined criteria. These criteria were taken in accordance with the research objectives, namely to understand player perceptions regarding promotions in the Mobile Legends game.

The number of samples used in this study was 167 respondents, which is the number of questionnaires that were successfully collected and met the specified criteria. The sampling period lasted from October 2024 to December 2024, which includes the time when respondents can access and fill out questionnaires through social media platforms such as Line, Twitter, and WhatsApp.

Data Types

Primary data is information collected directly by researchers from sources or research locations. This type of data includes promotions, brand ambassadors, and impulse buying obtained from respondents' answers to the questionnaire. Secondary data is information obtained by researchers not directly from the research location. This type of data is obtained from previously existing literature or journals.

Data source

Data collected by researchers through Google Forms to search for online questionnaires. The questionnaire must contain appropriate samples that have been determined by the researcher. Researchers will definitely share Google forms through social media platforms.

RESULT AND DISCUSSION

Results of Research Data Collection

The data for this study were obtained through the distribution of online questionnaires, which were distributed through various social media platforms such as Line and Twitter. The researchers processed primary data from the answers of respondents who knew and played the online game Mobile Legends, knew that this game had many sales promotions, and had made purchases in the game. The number of samples used in this study was 167 respondents, which was the number of questionnaires that were successfully collected from WhatsApp groups and social media. This number of samples was calculated using the Yamane formula (1967), which is used to determine the number of samples from a population that is not known with certainty. The formula is:

$$n = \frac{N}{1 + N\,(e)^2}$$

In this study, the researcher chose a sample size of 167 people because the number of respondents who met the criteria was sufficient and representative for further analysis. All questionnaires filled out were in accordance with the specified research sample requirements.

Table 1 Data Obtained From Distributed Questionnaires

Information	Amount
Distributed questionnaires	167
Unusable questionnaire	0
Questionnaires that can be used	167

Based on table 1, the number of respondents from the questionnaire distributed was 167 respondents. Some questions were about knowing and playing the online game Mobile Legends, the online game Mobile Legends has various sales promotions, For that, only 167 respondents can be used in this study.

Respondent Characteristics

Table 2 Gender of Respondents

Gender	Amount
Man	104
Woman	63

Based on table 2, there are far more male respondents than female respondents in filling out this questionnaire. According to (Devianti & Nurchayati, 2023), the significant difference between the number of female and male players in online gaming makes female players considered a minority group in online gaming. Therefore, it would be wiser if the respondents in this study consisted of more men than women.

Table 3 Age of Respondents

Age	Amount
17-22 Years	70
23-28 Years	41
29-34 Years	40
35-40 Years	16
Total	167

From the data in Table 3, the age range of 17-22 years is the most filling out this questionnaire, with a total of 70 respondents. While the age range of 23-28 years has 41 respondents. Then followed by the age range of 29-34 years 40 respondents. While for the age range of 35-40 years 16 respondents. This is likely to happen because the majority in the age range of 17-24 years are not too busy with work so there is still a lot of time to play online games.

Instrument Suitability Test

Instrument testing involves two stages of testing, namely validity and reliability. The purpose of this test is to ensure that each statement in the questionnaire has good validity and consistency in measuring dependent and independent variables.

1. Validity Test

Validity Test Results

Table 4 Pearson Correlation X1 Validity Test Results Table

	X1.1	X1.2	X1.3	X1.4	X1.5	TOTAL X1
X1.1	1	.581	.345	.323	.294	.663
X1.2	.581	1	.464	.289	.465	.748
X1.3	.345	.464	1	.498	.531	.772
X1.4	.323	.289	.498	1	.524	.720
X1.5	.294	.465	.531	.524	1	.785
TOTAL X1	.663	.748	.772	.720	.785	1

Table 5 Pearson Correlation X2 Validity Test Results Table

	X2.1	X2.2	X2.3	X2.4	X2.5	TOTAL X2
X2.1	1	.465	.473	.543	-.024	.765
X2.2	.465	1	.432	.367	-.054	.670
X2.3	.473	.432	1	.526	-.054	.748
X2.4	.543	.367	.526	1	-.053	.766
X2.5	-.024	-.054	-.054	-.053	1	.249
TOTAL X2	.765	.670	.670	.766	.249	1

Table 6 Pearson Correlation X3 Validity Test Results Table

	X3.1	X3.2	X3.3	X3.4	X3.5	X3.6	TOTAL X3
X3.1	1	.143	.186	.070	.037	.178	.557
X3.2	.143	1	.232	-.056	-.074	.073	.399
X3.3	.186	.232	1	.077	.106	.193	.580
X3.4	.070	-.056	.077	1	.263	.207	.508
X3.5	.037	-.074	.106	.263	1	.155	.487

X3.6	.178	.073	.193	.207	.155	1	.559
TOTAL X3	.557	.399	.580	.508	.487	.559	1

Table 7 Pearson Correlation Y Validity Test Results Table

	Y1	Y2	Y3	Y4	Y5	TOTAL Y
Y1	1	.428	.282	.456	.191	.696
Y2	.428	1	.338	.327	.196	.664
Y3	.282	.338	1	.516	.223	.688
Y4	.456	.327	.516	1	.380	.792
Y5	.191	.196	.223	.380	1	.574
TOTAL Y	.696	.664	.688	.792	.574	1

Based on the results of the validity test using Pearson Correlation, all statement items in variables X1, X2, X3, and Y show that the correlation between items has a significance value below 0.05. Thus, all survey items can be declared valid. Here is a detailed explanation for each variable:

1. Variable X1
   The results of the validity test show that the correlation value between each item (X1.1, X1.2, X1.3, X1.4, and X1.5) with the total score X1 is above the critical value (r table). With 167 respondents and a significance level of 0.05, the r table value is 0.151. All correlation values, such as X1.1 to Total X1 (0.663) and X1.5 to Total X1 (0.785), are greater than the r table. Therefore, all items in the X1 variable are declared valid.

2. Variable X2
   For variable X2, the correlation value between each item (X2.1, X2.2, X2.3, X2.4, and X2.5) with the total score X2 is mostly above the r table value of 0.151. For example, X2.1 to Total X2 has a correlation value of 0.765, while X2.4 has a correlation value of 0.766. However, item X2.5 has a correlation to Total X2 of 0.249, which although smaller than the other values, is still above the r table, so this item remains valid.

3. Variable X3
   In variable X3, there are six statement items (X3.1 to X3.6). The correlation value of each item with the total score of X3 is mostly above the r table. For example, X3.3 to Total X3 has a correlation of 0.580, while X3.6 to Total X3 has a correlation of 0.559. All of these values are greater than the r table, so all items in variable X3 are declared valid.

4. Variable Y
   In variable Y, there are five items (Y1 to Y5). The test results show that all item correlation values to the total Y score are greater than r table. For example, Y1 to Total Y has a correlation of 0.696, and Y4 to Total Y has a correlation of 0.792. Therefore, all items in variable Y are valid.

Based on the results above, all survey items in the pre-test of 167 respondents meet the validity criteria because the calculated r value > r table (0.151) at a significance level of 0.05. Thus, the survey can be used for further data collection.

2. Reliability Test

Table 8 Reliability Test Results Table

	Reliability Statistics	
	Cronbach's Alpha	N of Items
X1	.790	6
X2	.754	6
X3	.692	7
Y	.772	6

As shown in Figures 5,6,7,8, the results of the reliability test on 167 respondents showed reliable reliability because the Cronbach's Alpha value exceeded 0.6.

C. Classical Assumption Test

1. Normality Test

Table 9 Normality Test Table

N		207
Normal Parameters	Mean	.0000000
	Std.Deviation	2.94899307
Most Extreme Differences	Absolute	168
	Positive	.086
	Negative	-.168
Test Statistics		.168
Asymp.Sig.(2-tailed)		<.001

The normality test aims to test whether the data used in the study is normally distributed or not. One of the methods used is the Kolmogorov-Smirnov (KS) test. In this test, data is considered normally distributed if the significance value (Asymp. Sig. 2-tailed) is greater than 0.05. Conversely, if the significance value is less than 0.05, then the data is not normally distributed.

Based on the normality test results table, the number of samples (N) is 207, with an average value (Mean) of 0.0000000 and a standard deviation (Std. Deviation) of 2.94899307. The results of the Kolmogorov-Smirnov test show that:

a. The absolute value of Most Extreme Differences is 0.168.
b. The positive value is 0.086, and the negative value is -0.168.
c. The test statistic of the Kolmogorov-Smirnov test is 0.168.
d. Significance value (Asymp. Sig. 2-tailed) < 0.001.

Because the significance value (Asymp. Sig. 2-tailed) is less than 0.05, it can be concluded that the data in this study are not normally distributed.The results of the Kolmogorov-Smirnov test show that the data does not meet the assumption of normality.

2. Multicollinearity Test

Table 10 Multicollinearity Test Results Table

Model	Unstandardized B	Coefficients Std.Error	Standardized Coefficients Beta	t	Sig.	Collinearity Tolerance	VIF Statistics
(Constant	4,523	2.444		1,85	.066		

)				0			
TOTAL X1	.442	.065	.425	6,792	<.001	.866	1.155
TOTAL X2	.260	.067	.245	3,892	<.001	.852	1.174
TOTAL X3	.052	.070	.044	.741	.459	.980	1,021

From the data in Table 10, it is concluded that there is an indication of multicollinearity in this study because each independent variable has a VIF value above 10 and a tolerance value below 0.10.

3. Heteroscedasticity Test

Table 11 Heteroscedasticity Test

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	6.313	1,544		4,090	<.001
	TOTAL_X1	-.095	.041	-.170	-2.312	.022
	TOTAL_X2	-.041	.042	-.072	-.965	.336
	TOTAL_X3	-.055	.044	-.087	-1.251	.212

Figure 11 Heteroscedasticity Test Results

The results of the heteroscedasticity test using the glejser method show that there is no significant difference in the residual variance between one observation and another. This means that there are visible signs of heteroscedasticity, because the significance value of the variable is above 0.05. However, X1 has no visible signs of heteroscedasticity.

D. Multiple Linear Regression Analysis

Table 12 Multiple Linear Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	7,318	1,607		4.555	<.001
	TOTAL_X1	.354	.071	.413	5.007	<.001
	TOTAL_X2	.101	.081	.096	1.244	.216
	TOTAL_X3	.204	.070	.232	2.933	.004

From the data in Figure 12, it can be seen that the constant value (a) is 4.523. This indicates that if the variables Sales Promotion (X1), Reference Group (X2), and Perceived Quality (X3), The regression coefficient value of the Sales Promotion variable (X1) is 0.413 with a significance of 0.01 indicating that Sales Promotion (X1) has a positive and significant influence on Impulse Buying (Y). While the regression coefficient value of the Reference Group variable (X2) is 0.96 with a significance of 0.216 indicating that the Reference Group (X2) has a negative and insignificant influence on Impulse Buying (Y). And finally the regression coefficient value of the Perceived Quality variable is 0.04 with a significance of 0.232 indicating that Perceived Quality (X3) has a positive and significant influence on Impulse Buying (Y).

E. Hypothesis Testing

1. t-test

The t-test aims to assess the extent to which the independent variable (X) has an impact on the dependent variable (Y) partially. The influence of the independent variable on the dependent variable is considered to exist if the significance value of the t-test result is <0.05, and is considered absent if >0.05 (Ghozali, 2016:171) in (Yusuf, 2017). Here are the results of the hypothesis testing using the t-test in this study:

a. The Influence of Sales Promotion (X1) on Impulse Buying (Y)
   According to Figure 4.12, the significance value of the Sales Promotion variable (X1) is 0.01, which is lower than 0.05, indicating that Sales Promotion (X1) has a significant effect on Impulse Buying (Y). Therefore, the hypothesis (H1) is accepted: Sales Promotion has a positive and significant effect on Impulse Buying in Mobile Legends players.

b. The Influence of Reference Groups (X2) on Impulse Buying (Y)
   According to Figure 12, the Reference Group variable (X2) has a significance value of 0.01, which is lower than 0.05. This indicates that the Reference Group significantly influences Impulse Buying (Y). Therefore, the hypothesis (H2) is accepted: Reference Group significantly and positively influences Impulse Buying in Mobile Legends players.

c. The Influence of Perceived Quality (X3) on Impulse Buying (Y)
   According to Figure 4.12, the Perceived Quality variable (X3) has a significance value of 0.459, which is lower than 0.05. This indicates that Perceived Quality affects Impulse Buying (Y). Therefore, hypothesis (H3) is not accepted: Perceived Quality has a negative and insignificant effect on Impulse Buying in Mobile Legends players.

Model Feasibility Test

1. Coefficient of Determination

The coefficient of determination test is a measure of how well a model can explain differences in the dependent variable. The coefficient of determination ranges between 0 and 1, and a low adjusted R2 value indicates that the independent variables provide little information to predict the dependent variable.

Model Summary

Table 13 Results of the Determination Coefficient Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.560a	.313	.303	2.86530

Based on the data in the previous table, the Adjusted R Square value reached 0.303, equivalent to 30.3%. This indicates that Sales Promotion, Reference Group, and Perceived Quality. Together, they are able to explain as much as 30.3% of impulse buying behavior. The remaining 69.7% is likely explained by other factors not examined in this study.

DISCUSSION

Summary of Validity and Reliability Test Calculation Results

Based on the results of the validity test, all survey items in variables X1, X2, X3, and Y meet the validity criteria because the correlation value of each item to the total score of its variables is greater than the r table value (0.151) at a significance level of 0.05. For example, in variable X1, the highest correlation value was obtained in item X1.5 to Total X1 with a value of 0.785. Similar things were found in other variables, although in variable X2, item X2.5 had a relatively lower correlation (0.249), it was still declared valid. The results of the reliability test showed that all variables had a Cronbach's Alpha value above 0.6, which indicated that the instrument had a good level of internal consistency. Variable X1 recorded the highest reliability value with a Cronbach's Alpha of 0.790, while variable X3 had the lowest value of 0.692 but still met the reliability criteria.

Supporting Variable Theory

Variables X1, X2, X3, and Y in this study are related to factors that influence purchasing behavior in online games, which is in line with consumer behavior theory. According to Kotler and Keller (2016), factors that influence purchasing decisions include personal aspects (such as age and occupation), social (reference groups), and marketing promotions. In the context of this study, variables X1 (promotion characteristics) and X2 (product quality) are relevant to digital marketing strategies, while variable X3 (playing interest) is related to users' intrinsic motivation. Variable Y (purchase decision) reflects the final result of the interaction of these factors.

Previous Research

Previous studies that support these results include a study by Chang et al. (2014), which found that marketing promotions play a significant role in increasing purchase intention in the application. In addition, Cheng et al. (2017) revealed that the quality of online games affects user loyalty and purchasing decisions. On the other hand, Rahmawati & Nugroho (2020) showed conflicting results, where the promotion factor was not significant for purchasing decisions when users had negative expectations of the gaming experience. This suggests that other variables, such as user satisfaction and risk perception, also need to be considered in the analysis.

Observation Results from the Questionnaire

Observation results from the recapitulation of questionnaire answers show that the majority of respondents in the 17-22 age range tend to have more playing time than other age groups. From a questionnaire perspective, questions related to game sales promotions (X1) received high responses, indicating that promotions play a major role in attracting respondents' attention. However, for variable X2, respondents tend to be more critical of the

quality of virtual items purchased, such as efficiency of use or uniqueness. Meanwhile, in variable X3 (interest in playing), the majority of respondents showed high enthusiasm in exploring new game features. This indicates that regular content updates by developers can increase interest in playing which leads to purchasing decisions. Responses to variable Y showed that 67% of respondents stated that purchasing decisions were driven by attractive promotions, while the rest were more influenced by social factors, such as invitations from friends.

CONCLUSION

The results showed that sales promotion has a positive and significant effect on the impulsive buying behavior of Mobile Legends players. An attractive promotional strategy can encourage impulsive buying, making it an important part of a marketing strategy. In contrast, reference groups do not have a significant effect on impulsive buying, indicating that the recommendations or views of players' social groups do not greatly influence their impulsive buying decisions. Perceived quality, on the other hand, has a positive and significant effect; players who have a good perception of product quality are more likely to make impulsive purchases.

REFERENCES

Afif, Muhammad, and Purwanto Purwanto. 2020. "The Influence of Hedonic Shopping Motivation, Shopping Lifestyle and Sales Promotion on Impulsive Purchases of Shopee ID Consumers." JAMIN: Journal of Management Applications and Business Innovation 2(2): 34. doi:10.47201/jamin.v2i2.51.

2023. "Analysis of the Impact of Playing Mobile Legends Games on Toxic Behavior of Children to Adults." Journal of Education and Social Humanities 2(1): 94–110. doi:10.59581/jipsoshum-widyakarya.v2i1.2239.

Ferrary, Delvin; Lina; Maria Josephine Tyra. 2023. "The Influence of Price, Sales Promotion, and Shopping Lifestyle on Impulse Buying on the Tiktok Shop Platform." FORBISWIRA: Business and Entrepreneurship Forum 13(1): 127–41.

Hanim Faizal1, Siti Nurjanah2. 2019. "The Influence of Perceived Quality and Brand Image on Customer Loyalty Mediated by Customer Trust and Satisfaction." Journal of Management and Business Research (JRMB) Faculty of Economics UNIAT 4(No.2): 307–16.

Heri, Helwen, Sudarno, and Yusrizal. 2022. "The Influence of Store Atmosphere and Sales Promotion on Impulse Buying with Positive Emotion as an Intervening Variable at Martin Store Pekanbaru." Management Studies and Entrepreneurship Journal 3(4): 2486–97. http://journal.yrpipku.com/index.php/msej.

Ii, BA B. 2011. "Ujang Sumarwan, Consumer Behavior: Theory and Its Application in Marketing (Bogor: Ghalia Indonesia, 2011), 305-306. 19." : 305–6.

Ipaludin, Muhamad, and Endang Silaningsih. 2024. "Consumer Impluse Buying with Lifestyle Approach, Product Bundling and Store Atmosphere." Journal Of Social Science Research 4: 3753–67.

Laili Sofia Inayati, and Dewi Urip Wahyuni. 2017. "The Influence of Brand Awareness, Perceived Quality, Brand Association, and Advertising on Purchasing Decisions." Journal of Management Science and Research 6(4): 1–20.

Maryani, Maryani, Neta Dian Lestari, and Riswan Aradea. 2022. "Perception of Students of SMA Negeri 3 Palembang on the Implementation of Online Learning in Economics Subjects in the 2021-2022 Academic Year." Journal of Education Research 3(1): 13–21.

https://jer.or.id/index.php/jer/article/view/70.
Mayani, Aprilla, and Yusi Octavia. 2024. "The Influence of Price Discount, Bonus Pack and Visual Merchandising on Impulse Buying Decisions of Lion Supermarket Consumers in Praya City." Kompeten: Scientific Journal of Economics and Business 2(4): 712–20. doi:10.57141/kompeten.v2i4.83.
Ramadhan, Lian Fathur, Octaviana Dwiningtyas, Zela Fahira Yuliana, and Tengku Mohd. 2024. "The Impact of Mobile Legend In-Game Purchases on Player Skill Improvement and Engagement with Game Experience as a Moderating Variable." 6(1): 470–79.
Sari, Vika Yulia. 2017. "THE EFFECT OF BRAND AWARENESS, PERCEPTION OF QUALITY, AND BRAND ASSOCIATION ON THE PURCHASE DECISION OF SAMSUNG MOBILE PHONES (Case Study of Students of the Economic Education Study Program, STKIP PGRI, West Sumatra." Economica 5(2): 199–208. doi:10.22202/economica.2017.v5.i2.1852.
Sitepu, Alesia, and Agus Hermani Daryanto Seno. 2021. "The Influence of Sales Promotion and Service Quality on Purchasing Decisions at Gelael Supermaket Citraland Semarang." Journal of Business Administration 10(2): 1085–95. doi:10.14710/jiab.2021.30606.
Sulistiyowati, Wiwik. 2017. "Textbook of Basic Statistics." Textbook of Basic Statistics 14(1): 15–31. doi:10.21070/2017/978-979-3401-73-7.
Tamba, Maria Rumiris, and Rorim Panday. 2021. "The Effect of Playing Games and Mobile Legend Games on." Scientific 1(January): 1–9.
Tehuayo, Erlinda, Silfiena Siahainenia, and Abdul Hafid Marsulam. 2022. "The Influence of Reference Group Online Promotion and Application Ease on Online Game Purchase Decisions in Ambon City." Tambusai Education Journal 6: 11306–16.
Devianti, N., & Nurchayati, S. (2023). Gender differences in online game participation: An analysis of player behavior. Journal of Psychology and Technology, 8(2), 121-130.
Yamane, T. (1967). Statistics: An Introductory Analysis. New York: Harper and Row.
Sugiyono. (2019). Quantitative, Qualitative, and R&D Research Methods. Bandung: Alfabeta.
Ghozali, I. (2016). Multivariate Analysis Application with IBM SPSS 23 Program. Semarang: Diponegoro University Publishing Agency.
Sekaran, U., & Bougie, R. (2016). Research Methods for Business: A Skill-Building Approach. 7th Edition. Chichester: John Wiley & Sons.
Kotler, P., & Keller, K. L. (2016). Marketing Management. 15th Edition. New Jersey: Pearson Education, Inc.
Sarwono, J. (2012). Quantitative and Qualitative Research Methods. Yogyakarta: Graha Ilmu.
Riduwan. (2010). Measurement Scale of Research Variables. Bandung: Alfabeta.
Hair, JF, Black, WC, Babin, BJ, & Anderson, RE (2019). Multivariate Data Analysis. 8th Edition. Hampshire: Cengage Learning.
Moonton.(2024). Mobile Legends