

Emerging of Online Entertainment Platform: A Study of Factors Influencing Donation to Streamers on Twitch Platform

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Abstracts

The study of Factors Influencing Audiences' Decision Making in Donation to Game Streamers: A Study of Twitch platform has three main objectives 1) To find factors, including user engagement, media richness, social interaction or personality that influence the viewers' community building and enjoyment. 2) To investigate factors, including community building and enjoyment that affect the audience's loyalty and 3) To study the factor which enhances the watchers' decision making in donation to game streamers. For this research uses a quantitative method to collect the data by using 4 parts of questionnaires. The sampling group is the Thai audience who knows Twitch. In terms of statistical analysis, the multiple regression is used for hypothesis tests. The result found out that user engagement, social interaction and personality affect community building and enjoyment. These two factors also influence loyalty. However, loyalty is not the factor that enhances the viewer's decision making in donation to Twitch streamer. Moreover, the author also summarizes the demographic characteristics and user behavior of Twitch audiences. Most of the viewers are female who are between 21-25 years old and they are students who have been studying in the university or school. The level of income is less than 10,000 THB. However, all of the respondents have Twitch experience, but only 159 persons who donated to streamers. In one week, the users visit 2-4 times, only one time per day. They usually spend 1-2 hours on Twitch by using the smartphone and know Twitch from social media.

Keywords: Donate; Game Streamer; Twitch, Decision Making; Livestreaming.

Introduction

Games have been invented since the Dawn of time. In every part of the world, in every culture, there is a game embedded into every culture; Thailand has their own traditional game such as Mark-geb, China has GO games and Africa has Mancala. As the times pass, every culture has developed themselves, to be more modern, to be more convenient, to be more globalized.

From the Introduction of the internet, now gaming industries have a new development area to develop. The first global Internet connection was introduced in 1991 in China; this allows everyone in the world to be connected as one. With this connection have been made just like a logistics business in the modern world. This created a space for a business to expand into this "game" industry. In modern days, there is a new upcoming trend, the trends of online streaming business have been introduced.

Twitch is one of the businesses that allow the player of any game in the world to stream their game for other people to watch and enjoy. Twitch also allows the players to have their earnings by letting the viewers donate the money to the streamers to support them. Therefore, the term gaming nowadays is not just playing games for fun anymore, but it is also a way of working and earning money. This kind of platform has proven to help people around the world to gain a certain income. Even though those earnings for some people may be considered insignificant, however, these incomes may have changed their quality of life for a specific person. Thus, the researcher is interested in the research to determine what factors influencing the decision making in a donation to Twitch streamers on the Twitch platform.

Objectives

1. To find factors including user engagement, media richness, social interaction or personality that influence the viewers' community building and enjoyment.
2. To investigate factors including community building and enjoyment that affect audience's loyalty.
3. To study the factor which enhances the watchers' decision making in donation to game streamers.

Materials and methods

1. Research design

For this collection of information, the researcher chooses a quantitative method to collect the data.

2. Sampling

The population in the study are Thai audiences who know about Twitch platform. Which must be the audiences who are Thai people. Which does not know the exact population. Thus, the sample size was determined by Taro Yamane's formula as follows: Kasri. (2013 : 306-324)

Therefore, the minimum sample size for this study was 385 samples. The researcher collected 15 reserve samples, including the sample size used to collect questionnaires. There was a total of 400 samples. When collecting the actual questionnaire, it was found that 400 complete questionnaires were used, thus the sample size was used in the study of Factors Influencing audiences' decision making in donation to streamers: a study of Twitch platform. The sampling method has been a randomized sampling.

3. Research Instrument

3.1 The researcher studies concepts and theories and related works such as the theory of social media behavior, decision-making theory as well as the factors intention to donate that affect audiences' decision making in order to create research questionnaires.

3.2 Gathering information that the researcher has studied. The author searches from various sources to create variables and conceptual frameworks.

3.3 Creating a questionnaire, the researcher sets the questions that will measure the factors influencing the audience's decision making in a donation to the game streamer, which is consistent with the educational objectives.

3.4 Checking the quality of the questionnaires generated by finding the confidence value of reliability, the questionnaires are used to try out with 30 batches of people known to the Twitter platform, which were not the samples used in this research. The experimental questionnaires are examined for the reliability of the questionnaire by using Cronbach's Alpha

Coefficient and processed through a package program that is Statistical Package or SPSS (Statistical Package for the Social Sciences) in which the alpha value indicates the degree of consistency of the questionnaire. The values are between $0 \leq \alpha \leq 1$. A value that is very close to 1 indicates a high confidence. The researcher has set the acceptance criteria at 0.7 or more Yamane (1970 : 117) Overall, according to the figure 3.1, the consistency degree is 0.932 which is more than 0.7. Therefore, this questionnaire can use for data collection.

Table 3.1 The confidence value of reliability of this research

Reliability Statistics	
Cronbach's Alpha	N of Items
0.932	30

4. Data collection

In this research uses questionnaires which the author separates into 4 parts as follows.

Part 1: Demographic characteristics: The researcher studies gender, age, status, education level, monthly income and occupation. Eight questions are closed-end questionnaire with multiple choice.

Part 2 User engagement: The researcher studies about the behavior of user engagement of the audiences in donation to game streamer. Six questions that is closed-end questionnaire with multiple choice.

Part 3 Factors effecting intention to donate: The researcher studies about the factors including user engagement, media richness, social interaction, personality, community building, enjoyment and loyalty that affecting the audiences' decision making in donation to game streamer. There are 33 questions and the questionnaire is a rating scale questions which has 5 scale level of answer.

Part 4 Suggestions: the questionnaire form is an open-end questionnaire. The respondents can give suggestions or recommendations. In order to improve the results next time.

5. Data analysis

1. Descriptive statistics analysis for demographic data and user engagement behavior analysis. It will study and present in the form of a frequency and percentage.

2. Inferential Statistics, it is a presentation of the data from the samples that have been analyzed statistical. By using measurement tools that test the hypothesis (Hypothesis Testing) to confirm what the researcher has made the hypothesis is correct or not. Which will use the following tools.

2.1 Multiple regression analysis, which analysis how influence between independent and the dependent variables. It is used to test data on factors intention to donate which are user engagement, media richness, social interaction, personality, community building, enjoyment, loyalty and donation.

Research Framework

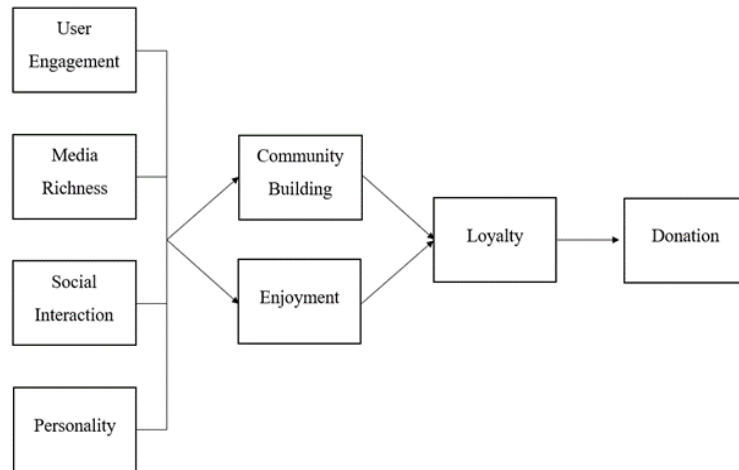


Figure 1: Proposed conceptual framework

According to figure 3.1, the proposed conceptual framework can explain that the loyalty has the intention to donate. Meanwhile, the loyalty is positively associated with the community building and enjoyment which also associated with the user engagement, media richness, social interaction as well as personality.

Results

Factors Influencing Audiences' Decision Making in Donation to Game Streamers: A Study of Twitch platform has 400 people of sample. The research tool was the questionnaire. The data were collected from the Thai audience who know the Twitch platform. Moreover, the research used for statistical analysis through the Statistical Package for the Social Sciences: SPSS and displayed through the table and description. The result is divided into 3 parts.

1. The demographic characteristics analysis results

Gender: Most of the respondents are more female than male, which have 43.8% and 56.3% respectively.

Age: The most frequency of age is between 20 – 29 years old which has 68%. The lower percentage is younger than 20 years old that has 23%. More than 30 years old has only 9% from overall of respondents.

Education level: 51.2% of respondents are less than Undergraduate level. Following this are Undergraduate that has 42%. The lowest percentage of education level is Postgraduate which has 6.8%.

Income: Most of Twitch users have incomes less than 10,000 THB which is 44.3%. Next, 31.8% are lower percentage which is between 10,001 and 20,000 THB. Finally, 11.5% are the viewers who have 20,001 – 30,001 THB.

Occupation: The highest percentage of occupation is the student and there are 49.5%. Private corporates employees have 28% which is lower than student percentage by 21.5%.

Following this, there are 11.8% and 8.8% of Business owner and Government official/State enterprise employee respectively. The lowest percentage of occupation is other people such as unemployment.

Twitch awareness: 100% of respondent knew the Twitch.

Donation: More than half of the respondents have never donated to Twitch steamer which has 60.3% of the overall. While, there are 39.7% who made a donation during the live streaming on Twitch.

Donation amount: Firstly, 60.25% of the audiences have never made a donation. Secondly, 32.5% of audiences spent between 1 and 250 THB to Twitch donate. Thirdly, 5.75% is 251 THB and 500 THB. The lowest percentage of amount donation is 0.25% who donated more than 1,001 THB.

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2. The user engagement behavior analysis result

Weekly visiting: The highest percentage of weekly visiting on Twitch is 41.5%, which is between 2 and 4 days per week. The lower percentage of visiting is 23.5%. Who join the platform everyday with the slightly lower percentage by 0.5% people who watching only one time per week. Furthermore, between 5 and 6 times per week is the lowest percentage of viewers who access on the Twitch as 12%.

Daily visiting: only one time per day is the highest percentage of visiting per day, there are 47.5%. This is the percentage of people who visit the Twitch only one time per day. Next is 41.8% of people who watch the live-streaming between 2 and 4 times per day. 4.8% is the lowest percentage is of viewers who visit more than 10 times a week.

Watching duration: between 1 and 2 hours per time visiting is the highest percentage of time duration, which has 32.3%. 2 and 4 hours is the lower percentage of people who spent their daily time to watch and enjoy. Next, less than 1 hour per day and 4 – 6 hours are the third and the fourth highest percentage which has 16% and 12.8% respectively. More than 6 hours per day is the lowest percentage of time duration.

Watching devices: 80.3% is the highest percentage of people who chose the Smartphone for watching on Twitch. The lower percentage is Laptop computer which has 35.8%. Following percentages are 27.8% and 20.5% that are the percentage of Desktop computer and Tablet respectively.

Channel of Twitch awareness: social media has the highest percentage of the way that makes the Twitch awareness, this channel has 62.3%. The second of highest percentage is themselves, which has 49%. Friend is the third way that affect them to know the Twitch. The lowest percentage of channel is a billboard which has only 2.8% to be known by spectators.

3. The analysis result of Factors Influencing Audiences' Decision Making in Donation to Game Streamers: A Study of Twitch platform

There are the test conditions when the research uses the Multiple regression statistic which are questionnaire confidence, normal distribution of the dependent variables and the analyzes of each independent variable must not be related. (Multicollinearity) analysis, correlation coefficient analysis between independent and dependent variables, and analysis of each error value independently. (Autocorrelation)

3.1 Reliability Test

After the part of collecting the questionnaire from 400 respondents. The researcher tested the reliability of the questionnaire. Thus, the consistency degree is 0.932 of 400 questionnaires has more than 0.7 which is reliable.

3.2 Normal Distribution

The skewness and kurtosis test with the following variables showed that the skew values ranged from -0.080 to 0.123, and the kurtosis is between -0.292 and 0.245, that the threshold of skew and acceptable kurtosis and it gets under normal bends. The skew values are not more than 3.00 and the kurtosis values are not more than 10.00 which showed that the data of the variables have not skewed and not too high distribution characteristics of the distribution. Therefore, the data can be used to analyze the results in the next step. Joyner, Mummery. (2005 : 48-53)

3.3 Multicollinearity

Multiple Regression Analysis has the following conditions: Each independent variable cannot be related to each other. Multicollinearity must be independent of each other. These two conditions were examined using the Variance Inflation Factor (VIF). If the VIF value of the variable is greater than or very close to 10, the degree of relevance of the independent variable in the equation for analysis of the Linear multiple regression is abundant. That is, there is a problem Multicollinearity and from examining the relationship between independent variables, it was found that the Tolerance and Variance Inflation Factor values are lower than 5.00

3.4 Correlation Coefficient

Table 1 The analysis result of Correlation Coefficient

Factors effecting intention to donate	User engagem ent	Med ia richne ss	Socia l interact ion	Personalit y	Comm unity building	Enjoyme nt	Loyalty
User engagem ent	1	0.316 **	0.39 9**	0.465* *	0.618* *	0.519* *	0.572* *
Media richnes s		1	0.17 9**	0.397* *	0.339* *	0.361* *	0.334* *

Social interactio n			1	0.506* *	0.577* *	0.175* *	0.355* *
Person ality				1	0.603* *	0.459* *	0.561* *
Comm unity building					1	0.510* *	0.585* *
Enjoy ment						1	0.703* *
Loyalt y							1

Table 1 presents the value of Correlation Coefficient of all of Factors Influencing Audiences' Decision Making in Donation to Game Streamers including user engagement, media richness, social interaction, personality, community building, enjoyment and loyalty. From the figure, on the one hand, the highest value of Correlation Coefficient is between enjoyment and loyalty that has 0.703. On the other hand, social interaction and enjoyment is the lowest value of Correlation Coefficient which has 0.175.

3.5 Multiple Regression analysis

The Multiple Regression result of Factor effecting intention to donate can be summarized into formular as the table 4.2 – 4.7.

Table 2 Multiple Regression formular

$\hat{Y} = \alpha + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5 X_5$	
\hat{Y}	Predict value of audiences' decision making in donation
X_1	User engagement
X_2	Media richness
X_3	Social interaction
X_4	Personality
X_5	Community building
X_6	Enjoyment
X_7	Loyalty
$\alpha = \text{Constant}, B_n = \text{Slope for } X_i$	

Table 3 Multiple Regression analysis of Factors effecting intention to donate

Factors effecting intention to donate	B	Beta	p-value
Constant	12.098	60.398	0.841
Total user engagement	4.513	10.869	0.678
Total media richness	-2.179	11.317	0.847
Total social interaction	20.168	7.911	0.011*
Total personality	-4.243	15.260	0.781
Total community building	-0.686	12.391	0.956
Total enjoyment	2.499	16.976	0.883
Total loyalty	0.090	14.063	0.995

R square = 0.280, SEE = 152.049, F = 1.631, sig of F = 0.841

Remark: * refers to Statistical Significance at the 0.05

From the result of Multiple Regression analysis found out 28% that means all of factor effecting intention to donate including user engagement, media richness, social interaction, personality, community building, enjoyment and loyalty can explain that 28% has variation of audiences' decision-making in donation. In other word, there are 28% affect to viewers' decision making. Furthermore, 72% is from other factor that do not have to use in this research. On the one hand, social interaction is positively associated with audience's decision making to donate which has 0.011 as the Statistical Significant at 0.05. On the other hand, other factors such as user engagement, media richness, personality, community building, enjoyment and loyalty do not have a Statistical Significant or there is negative associate with the decision making of spectator's donation.

Table 4 Multiple Regression analysis of User engagement, media richness, social interaction and personality are positively associated with community building.

Factors effecting intention to donate	B	Beta	p-value
Constant	-0.076	0.219	0.730
Total user engagement	0.363	0.039	0.000*
Total media richness	0.089	0.047	0.057
Total social interaction	0.223	0.030	0.000*
Total personality	0.364	0.059	0.000*

R square = 0.570, SEE = 0.641, F = 131.10, sig of F = 0.730

Remark: * refers to Statistical Significance at the 0.05

According to table 4, presents the factors which are positive associate with community building. There are three factors including user engagement, social interaction and personality that affect to the community building or it has 0.000 of the p-value as the Statistical Significant at the 0.05 that has 57% of the variation of audiences' decision-making in donation. Meanwhile, media richness is negative associate with loyalty.

Table 5 Multiple Regression analysis of User engagement, media richness, social interaction and personality are positively associated with enjoyment.

Factors effecting intention to donate	B	Beta	p-value
Constant	2.032	0.184	0.000*
Total user engagement	0.280	0.033	0.000*
Total media richness	0.130	0.040	0.001*
Total social interaction	-0.086	0.025	0.001*
Total personality	0.285	0.050	0.000*

R square = 0.368, SEE = 0.539, F = 57.4333, sig of F = 0.000**

Remark: * refers to Statistical Significance at the 0.05

Subject to table 5, this table shows what factors are positive associate with the enjoyment. All of the factors including user engagement, media richness, social interaction and personality are positive associate with the loyalty as the Statistical Significance at the 0.05 which has 36% of the variation of audiences' decision-making in donation.

Table 6 Multiple Regression analysis of community building and enjoyment are positively associated with loyalty.

Factors effecting intention to donate	B	Beta	p-value
Constant	-0.073	0.192	0.703
Total community building	0.271	0.034	0.000*
Total enjoyment	0.698	0.049	0.000*

R square = 0.563, SEE = 0.571, F = 255.668, sig of F = 0.703

Remark: * refers to Statistical Significance at the 0.05

Table 6 show that both community building and enjoyment have 56% of the variation of audiences' decision-making in donation. There are 0.000 as the Statistical Significance at the 0.05 that means these two factors influence to the decision making in donation to Twitch streamer.

Table 7 Multiple Regression analysis of loyalty is positively associated with decision making in donation.

Factors effecting intention to donate	B	Beta	p-value
Constant	21.816	36.563	0.551
Total loyalty	11.789	8.875	0.185

R square = 0.004, SEE = 153.741, F = 1.764, sig of F = 0.703

Remark: * refers to Statistical Significance at the 0.05

According to table 7, the loyalty is not positive associate with the audience's decision making in donation because there are 0.185 which is higher than Statistical Significant at 0.05 level.

Discussion

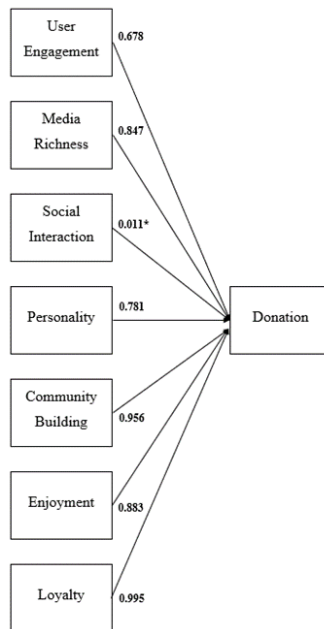


Figure 2: The summary of Factors effecting intention to donate

1. The discussion of factors directly associated with intention to donate to game streamers.

Social interaction is the most influential factor of audiences' decision making in donation to Twitch streamer. Because the game audience requires to ask the questions to other people during live streaming and they need to make friends with similar interests after watching the streaming.

Thus, the streamer should improve this factor by giving more accessibilities in part of room chat that the users can join and chat more with each other. Moreover, the streamer should extend their channels that the viewers can build the relationship, such as Facebook fan page that the audience can make a comment, see the current activities of streamer and have the community even though there is not live streaming in the Twitch.

2. The discussion of the relationship between the factors

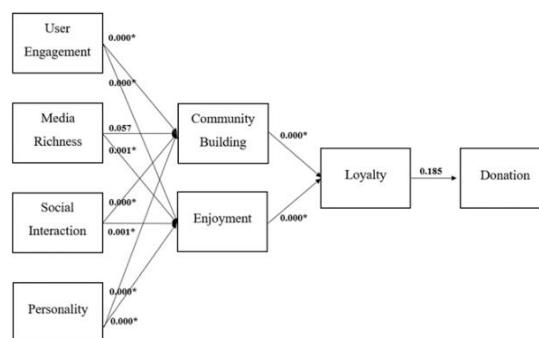


Figure 3: The conclusion of the relationship between the factors

Enjoyment is the most influential factor to create the audience's loyalty. Because viewers have their own reasons why they join and watch the streamer. For instance, they need to have fun, reduce loneliness and stress. Thus, when the streamers can provide the enjoyment to them. Then, the spectators will continue to watch the streamer and become the loyalty respective.

Personality is the most effect factor to both community building and enjoyment because while watching the stream, a complete streaming component is streamer's face, video of streamed content, chat rooms and viewers. So, during the watching, the viewers are able to see the interaction of streamers such as expressions, posture, movements and gaming experience. Therefore, the personality factor has to be the factor that streamer should improve or develop to effectively influence user donation decisions.

Suggestion

The result of this research, can be presented to the Ministry of Information and Communication Technology. The information in this research is beneficial, to those who are interested in finding alternative income with very low starting cost.

And when the population earns from this occupation. The government will also benefit from collecting tax on income. Leading to the further development of the country

For the next research, the next researcher should change the research platform. Because nowadays, Twitch is not the only platform that can only broadcast game streaming. There are also other platforms that add streaming functions such as YouTube, Facebook or other emerging platforms. That is continually giving streamers more channels to stream games. The next suggestion is that the further research should explore a comparison of how audience decisions affect donations between platforms with regards to game streams.

The gender of respondents is the other side that should collect equally. Therefore, the next study should determine the same number of respondents for each gender. in order to get clearer results for each gender perspective. Alternatively, statistics should be used as a One-Way ANOVA to compare demographic characteristics and donation decisions. In order to find out whether the demographic characteristics affect the decision making or not.

Finally, the sample group of this research is Thai people who know the Twitch platform. Therefore, the researcher receives the results from both those who have donated and never donated. Then, it causes the standard deviation more than usual. Overall, the next research should be specific to those who have previously donated to streamers. To get more clear research results.

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