

GENDER IN VIDEO GAME USAGE AND BEHAVIOR

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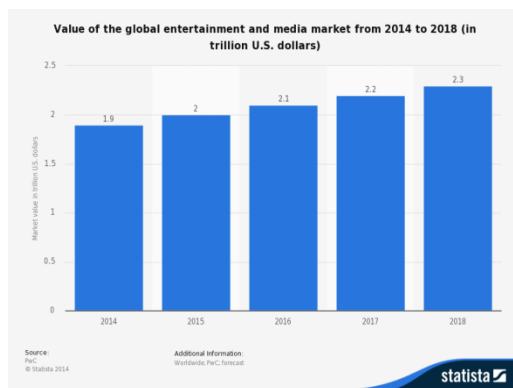
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Keywords: gender differences; usage; behavior and video game.

Abstract: This study aims to identify and analyze the differences of behavior and describe the Usage toward Video Game between Male and Female gamers in Surabaya. The Video Game mentioned covers all electronic games, independent of their platform (computer, consoles, arcades, handheld, Smartphone). By understanding how consumers' behavior is important to every marketer to develop a marketing strategy to meet their targeted consumer's needs and wants. The data used in this research gathered through questionnaire which was adopted from Phan. et.al (2012). Using Non-probability purposive sampling technique, sample of this research consisted of 200 respondents; 100 Male and 100 Female respondents whose age is 17 years old or above, domiciled Surabaya, and routinely plays video game for at least two hours in a week. Further data analysis was descriptive analyzed by SPSS 23.0. Result shows that there is significant difference between male and female in behavior on game genres and gaming device, also the usage of the video game.

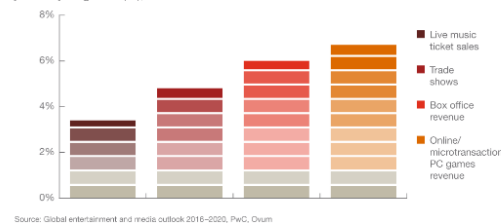
Introduction

Gale (2008) stated that the development of the economy in the term of productivity or output per person-hour, influenced and correlated with entertainment industry which was stated to be grown in line with the progress in technological development of which final result to cause the rapid growth of entertainment industry. The value of the entertainment industry according to the statista.com is \$1.81trillion (www.statista.com) – figure 1a. and projected to grow to \$2.1 trillion in the year of 2020 according to the report from PwC (PricewaterhouseCoopers one of the big four auditor) as cited in prnewswire.com (2016) –figure 1b. We could see the gaming segment within the industry showed outstanding result which is ranked the first amongst all of its year-on-year revenue growth which is 6.4% in 2015. In 2017, there will be 43.7 million gamers in Indonesia, spending a total of \$880 million. This makes Indonesia #16 worldwide in terms of game revenues (The Indonesian Gamer _ 2017 _ Newzoo.html).



Live experiences remain a key differentiator in a digital world

Box office revenue, online/microtransaction PC games revenue, global consumer revenue, year-on-year growth (%), 2015



Phan et.al (2012) further stated the recent condition of the video game industry which experienced a consistent shift in the demographics of the video game players and their consumers. Many game companies believe that female players are attracted to games with the color pink; fashion, shopping, and dating games; that they dislike game with violence, gore, and complex scenarios. There is a research gap - this thinking is likely to be oversimplified, misleading, and reflects the stereotypical beliefs of the male dominated gaming industry and not necessarily the true interests of female game players (Stredder, 2001; Jenson & de Castell 2007). Phan et.al. (2012) research findings stated that both male and female gaming preferences upon those genres are present and some are equally represented in driving, sport and adventure game.

In line with that, the objectives of the research are to know the gender-based differences within the behavior of the Video Game players and how the usage either preference of the Video Gamers based on each Gender.

Methods

The research used primary data which gathered through spreading questionnaires as the research instrument in order to collect the responses toward the questions within the questionnaire. The population to be used are Males and Females who plays games and domiciled within the city of Surabaya. With age of the respondents above 17 years old. The sample of the research is 200 respondents which are classified as 100 Males and 100 Females through Surveyor. The sampling technique to be used is the non-probability sampling with sampling method to be used is the quota sampling. Data was analyzed based on its difference between Male and Female respondents which further able to answer the Null Hypothesis and the Alternative Hypothesis with Independent t-Test.

Results

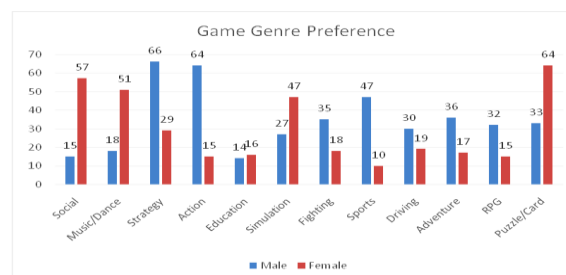
The questionnaire has been tested validity and reliability test. There are 13 items of behavior and all items are valid within α 5% and reliable within cronbach alpha more than 0.6. Based on age, the 65% Male respondent are those aged 21 to 24 and of the Female 42% respondent dominated by the age group of 21 to 24. The Male respondents spent the average of 20.39 hours per-week to do game and the female respondents which is only counted at the average of 11.47 hours per-week. Table 1 showed Male use computer and handheld devices for gaming, meanwhile Female use handheld device.

Table 1.
Gaming Device Preferences

Gender			Responses	
			N	Percent
Male	Device	Computer	75	44.6%
		Console	20	11.9%
		Smartphone/Handheld	73	43.5%
		Total	168	100%
Female	Device	Computer	35	25.5%
		Console	11	8%
		Smartphone/Handheld	91	66.4%
		Total	137	100%

Source: Data Processing IBM SPSS Statistics 23 for Windows

The preference on genre games between Male Respondents and Female Respondents among Social, Music/Dance, Strategy, Action, Education, Simulation, Fighting, Sports, Driving, Adventure, Role Playing Game (RPG), and Puzzle/Card Genres. From the graph the dominating answers were put on Strategy, Action, and Puzzle/Card Genre opt. Male Respondents mainly prefer Strategy, Action, and Sports Game Genre; of which scored 66, 64, and 47 respectively Female Respondents on the contrary rather having noticeably low interest on those top 3 Game Genres chose by Male respondents. On the other hand; Female Respondents top 3 choices are Puzzle/Card, Social, and Music/Dance Genres numbered 64, 57, and 51 respectively, see Figure 2.



The presence of difference between each population indicated by the significance within the t-table test. If the value of significance within the **t-test for equality of means** table is **less than 0.05(<0.05)**, **there is significance difference occur** between the two populations. the **Lavene's test** needed to be done **beforehand** in order to deduce the difference between each population variance (**homogeneity test**). Upon **higher than 0.05** significance value of the **Lavene's test** for equality of variances(>0.05), the data concluded to be **homogenous** which means **no data variance difference**. Thus, the **Equal Variances Assumed** row within the table should be used for interpreting the T-Test 2-Tailed significance value.

On the contrary if the significance value of the *Lavene's test* less than 0.05 (<0.05) the data concluded to be **heterogeneous** (not homogenous) which means **data variance difference presence** see table 2. Thus, the *Equal Variances Not Assumed* row within the table going to be used.

Table 2
Inter-Group Mean Table

Gender		N	Mean	Std. Deviation
MeanBehavior	Male	100	3.2308	0.68095
	Female	100	2.9115	0.7112

Table 3
Independent Sample T-Test Behavior

		Lavene's Test for Equality of Variances	t-test for Equality of Means	
		Sig.	Sig. (2-Tailed)	Mean Difference
MeanBehavior	Equal Variances Assumed	.668	0.001	0.31923
	Equal Variances Not Assumed		0.001	0.31923

The result of **Lavene's Test for Equality of Variances** within **Table 2** above, the significant value proofed to be **higher** than 0.05 which is 0.668 means the data is **homogenous**. Thus, the **T-Test to be used** is the *Equal Variances Assumed* result, which could be seen at the first row of the Mean Behavior with the **Sig. (2-Tailed)** value of 0.001 which is **lower** than 0.05 indicating that **there is significance difference** between the two sample, further the value show the Hypothesis Testing further in order to determine the correct answer.

From the **Table 3** above, indicated that the Significant Value (2-Tailed) from the t-test is 0.001 which value is **less than 0.05(<0.05)** from the result of utilizing the IBM SPSS Statistics 23 Software to generate the result. Thus, the **Null Hypothesis (H0)** should be **not accepted** and instead the **Alternative Hypothesis (H1)** is **accepted**. There is Significance Difference of Behavior in Video Gaming between Male and Female.

Discussion

The hypothesis testing within the Table 3, indicated that there are significance differences of the behavior in video gaming between male and female due to the result from the independent t-test of 0.001 which is less than 0.05.

The result supports the previous research by Phan *et.al.* (2012) which found out there are differences within the behavior of Male and Female in Video Gaming. Thus, the Alternative Hypothesis which stated "There are Significant Difference of the Behavior between Male and Female Video Game Players" accepted.

It is known that the total mean value of the Behavior Variable of the Male respondents are higher with the score of 3.2308 while Female respondents has total mean value of 2.9115 for the Behavior Variable. Thus, it could be concluded that the domination of Male respondents within the Behavior Variable indicating the Male Gamers are rather behave in more dedicating way toward

videogame playing activity, whereas Male game players spends more time to do game rather than Female game players, might be used as consideration for the videogame advertising to attract female gamers through TV.

Conclusions

Most of the Video Game enthusiasts are the adolescents and young adults; even though the age of the video gamers varies from adolescents to middle adults in their forties, those dominants aged 17 to 20 and 21 to 24. Averagely, all of the video game users admit to start to play at the age of 8.26 years old for Male and 12.70 years old for Female which means video gamers averagely start as an elementary scholars. Moreover, Male video gamers tend to spends more money and time compared to Female video gamers in average which is 20.39 hours to 11.47 hours and IDR 762,050 to IDR 388,700.

The majority of the Male Video Gamers admit an Expert in self-classifying, while Female Video Gamers considered themselves as Novice. On the other case, the preference regarding the gaming devices being preferred by the Male Video Gamers are Computer and Smartphone whereas the Female Video Gamers also prefer to uses Smartphone to do game. Moreover, the Game Genre Preference of the Male Video Gamers are Strategy, Action, and Sports which is contrast with the Female Video Gamers who prefers Puzzle/Card, Social and Music/Dance.

Result of Independent Sample T-Test analysis, the Hypothesis testing found the accepted hypothesis conclude that **there is significant difference** in overall Behavior between Male and Female Video Gamers.

The company should consider to educate the content due to the research which found the average age to started video gaming considered rather young. Thus, even though the game might be violent in the content due to its genre or pointless because of the casual game play the backstory needed in order to point out the moral values. In the result, video game might be the part of character education of each children and even the facility to boost knowledge in language for those in different mother language and boost knowledge in other sciences.

References

- Ansari, Chairul, Subhan Hadil, Karel Susetyo, Agus Triyanto, Bambang Pujicahyono, Fadhiya Djunaidy, Ike Kusumaningtyas, and YondaNurtaqwa. 2016. *Penetrasi Dan Perilaku Pengguna Internet Indonesia*. Publication. Jakarta: Asosiasi Penyelenggara Jasa Internet Indonesia (APJII). Print
- Bernhaupt, Regina.2016. "Video Game and Game Genres." *GAME USER EXPERIENCE EVALUATION*. Place of Publication Not Identified: SPRINGER INTERNATIONAL PU. <https://books.google.co.id/books?id=8IHMCQAAQBAJ&pg=PA189&lpg=PA189&dq=video+game+esposito+2005&source=bl&ots=PoXdjFLDHr&sig=wUv-ghuJhY5JU1eSLfXQEaKevWQ&hl=en&sa=X&ved=0ahUKEwjp4IfUrZbSAhVLgI8KHW W9C1sQ6AEIXDAO#v=onepage&q=video%20game%20esposito%202005&f=false>
- Bray, J. P., 2008. *Consumer Behaviour Theory: Approaches and Models*. Discussion Paper. Unpublished.
- Cunningham, Carolyn. "Girl game designers." *new media & society* 13, no. 8 (2011): 1373-1388.
- Dickey, M.D., 2006. Girl gamers: The controversy of girl games and the relevance of female-oriented game design for instructional design. *British journal of educational technology*, 37(5), pp.785-793.
- Fields, Tim. "What Is Social Game? Are Mobile Games Social?" *Mobile & Social Game Design: Monetization Methods and Mechanics*. 2nd ed. CRC, 2014. 7-20.

Gale, Thomson. "Entertainment Industry." International Encyclopedia of the Social Sciences. Encyclopedia.com, 2008. Web. 10 Jan. 2017. <<http://www.encyclopedia.com/social-sciences-and-law/economics-business-and-labor/businesses-and-occupations/entertainment-0>>.

"Indonesian Games Market 2015." NEWZOO SUMMER SERIES #21: INDONESIAN GAMES MARKET. Newzoo, 16 Sept. 2015.

"Indonesia Insights." Newzoo, n.d. Web. 10 Nov. 2016. <<https://newzoo.com/insights/countries/indonesia/>>.

Jenson, J., de Castell, S. and Fisher, S., 2007, November. Girls playing games: rethinking stereotypes. In *Proceedings of the 2007 conference on Future Play* (pp. 9-16). ACM.

Kothari, C. R. "Sampling Design." *Research Methodology Methods & Techniques*. 2nd Ed. New Delhi: New Age International (P), 2004. 58-59. Print.

Lake, Laura A. *Consumer Behavior for Dummies*. Chichester: John Wiley, 2009. PDF.

List of video game genres. (2017, February 24). In *Wikipedia, The Free Encyclopedia*. Retrieved 01:29, February 27, 2017, from <https://en.wikipedia.org/w/index.php?title=List_of_video_game_genres&oldid=781923915>

Phan, M. H., J. R. Jardina, S. Hoyle, and B. S. Chaparro. "Examining the Role of Gender in Video Game Usage, Preference, and Behavior." *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* 56.1 (2012): 1496-500. Web.

"Puzzle Video Game." *Wikipedia*. Wikimedia Foundation, 03 Apr. 2017. Web. 20 Mar. 2017

PwC. "PwC's Entertainment & Media Outlook Forecasts U.S. Industry Spending to Reach \$720 Billion by 2020." PwC's Entertainment & Media Outlook Forecasts U.S. Industry Spending to Reach \$720 Billion by 2020. N.p., 8 June 2016. Web. 11 Jan. 2017. <<http://www.prnewswire.com/news-releases/pwcs-entertainment--media-outlook-forecasts-us-industry-spending-to-reach-720-billion-by-2020-300281287.html>>.

Racing video game. (2017, January 18). In *Wikipedia, The Free Encyclopedia*. Retrieved 02:37, February 27, 2017, from <https://en.wikipedia.org/w/index.php?title=Racing_video_game&oldid=776066996>

Rahayu, Yulinda. *Faktor-Faktor Yang Menentukan Preferensi Masyarakat Dalam Menggunakan Akad Pembiayaan Mudharabah Dan Musyarakah Pada Lembaga Keuangan Syariah Di Kota Bandung*. Thesis. Universitas Islam Bandung, 2016

Rašković, Matevž, and PolonaGrahek. "Testing the Cultural Universality of Young-Adult Consumer Purchase Decision-Making Styles: Empirical Results from Turkey, Malaysia, Kazakhstan and Egypt." *International Journal of Management Cases Int J Managmnt Cases* 14.1 (2012): 87-99. Web. 18 June 2016.

Role-playing game. (2017, April 30). In *Wikipedia, The Free Encyclopedia*. Retrieved 01:42, February 27, 2017, from <https://en.wikipedia.org/w/index.php?title=Role-playing_game&oldid=777956542>

Sava, A. M. (2016). Are Leisure And Work Productivity Correlated? A Macroeconomic Investigation. *Annals-Economy Series*, 3, 155-159.

- Schiffman, Leon G., Leslie Lazar. Kanuk, and Joseph Wisenblit. *Consumer Behavior*. Vol. 6. Upper Saddle River, NJ: Pearson Education/Prentice Hall, 2010. Google Books. Web. 30 May 2016.
- Valentine, Keri Duncan, and Lucas John Jensen. "Toward Broader Definitions of Video Games." *Examining the Evolution of Gaming and Its Impact on Social, Cultural, and Political Perspectives*. Hershey, PA: Information Science Reference, 2016. 1-37.
- Van Den Berg, Ruben Geert. "SPSS Independent Samples T Test." SPSS Tutorials. N.p., 16 Sept. 2014. Web. 20 June 2017. <<https://www.spss-tutorials.com/spss-independent-samples-t-test/>>.
- "What Is Fighting Game? - Definition from Techopedia." Techopedia.com. Web. 27 February 2017.<<https://www.techopedia.com/definition/27154/fighting-game>>.
- Yap, Chloe Wai San, and Rashad Yazdanifard. "How Consumer Decision Making Process Differ From Youngster to Older Consumer Generation." *Journal of Research in Marketing* 2.2 (2014): 151. Web. 18 June 2016.

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