Inspiration Through Advertising Pop-Up in Batam Communities and Consumers

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ABSTRACT

The rapid increase in the use of Information and Communication Technology (ICT) in society has affected significant changes in entertainment media specifically in the field of video games. Ads in video games can affect user behavior, especially in the Inspired-To. Therefore, to understand more about Inspired-To that can affect the behavior of video game users, the writer will carry out this research using a questionnaire (N=390) and interviews (N=30) among video game users. In this study the authors found that the users were satisfied with the results of the advertisements pop up if the content is entertaining and provides benefits in the form of incentive. The author also identifies that each of the advertisements pop up entertaining and providing incentive benefits can increase the value of the ad. The writer finds that a good ad value can trigger a state of being inspired to the users in discovering something new which will then be followed by a state of being inspired to download the new game offered by the ad pop up. This study will assist users in identifying factors that can increase the state of being inspired in downloading a new game.

ABSTRAK

Isi abstrak harus merangkum ringkasan ruang lingkup, tujuan, metode, data, hasil Pesatnya penggunaan Teknologi Informasi dan Komunikasi (TIK) di masyarakat telah mempengaruhi perubahan yang signifikan pada media hiburan khususnya di bidang video game. Iklan dalam video game dapat mempengaruhi perilaku pengguna, terutama pada Inspired-To. Oleh karena itu, untuk lebih memahami tentang Inspired-To yang dapat mempengaruhi perilaku pengguna video game, penulis akan melakukan penelitian ini dengan menggunakan kuesioner (N=390) dan wawancara (N=30) di antara pengguna video game. Dalam penelitian ini penulis menemukan bahwa pengguna merasa puas dengan hasil iklan pop up jika kontennya menghibur dan memberikan manfaat berupa insentif. Penulis juga mengidentifikasi bahwa setiap iklan pop up yang menghibur dan memberikan manfaat insentif dapat meningkatkan nilai iklan. Penulis menemukan bahwa nilai iklan yang baik dapat memicu keadaan terinspirasi pada pengguna dalam menemukan sesuatu yang baru yang kemudian akan diikuti oleh keadaan terinspirasi untuk mengunduh game baru yang ditawarkan oleh iklan pop up tersebut. Penelitian ini akan membantu pengguna dalam mengidentifikasi faktorfaktor yang dapat meningkatkan keadaan terinspirasi dalam mengunduh game baru.

1. Introduction

The rapid increase in the use of information and communication technology (ICT) in society has affected significant changes in entertainment media. In entertainment media, online games have become a source of entertainment that has a positive impact on players of all ages [1]. In Indonesia there are as many as 94.5% of internet users who play video games with an age range of 16-64 years. We are Social noted that 68.1% of internet users who play video games use smartphones. Then, as many as 83.6% of internet users play video games using other gadgets.

As the video game industry grows, video game opportunities can open up new avenues of revenue generation developer, advertising, and game marketing. This can provide the possibility that advertising in

video games can become a new goal in the world of advertising [2]. Players tend to play games for a very long time so online games will remain relevant in the market for a very long time [3]. This can get the attention of advertisers and developers to consider online games as the right medium in raising awareness, promoting features in-game, and can influence the inspiration of the players.

In general advertising aims to direct users to a website where the product can be purchased or view the website's commercials. The ads work when a website opens a new web browser window (no user input) to display a single ad; it is a small window that appears over the website being viewed. In video games, the ad works while in the game which will bring up an ad pop-up. These ads can appear at the start of the game, when the game has ended, or when the user wants to

get a prize by watching the ad first. Ads appear pop-up; it can be timed to appear or it can start when the user clicks on the provided link. Usually advertising pop-up can be deleted by pressing the "x" button at the top right of the content.

However, the use of advertising still needs to be studied more deeply, bearing in mind that advertising media is often responded to negatively by users. Advertising is seen as a medium that is annoying and disliked by users [4]. So, users sometimes do various ways to avoid advertisements that appear to them. According to previous research, advertisements must be considered good by consumers to be effective [5]. This is because advertisements that are considered good by consumers can attract their attention and their curiosity about the content promoted in these advertisements. If an advertisement has got the user's attention, it can increase their engagement and can affect their inspired state.

This research was conducted based on the results of research [6] which discussed the effect of the value of pop-up advertisements in online video games on the inspiration of gamers. This study uses a quantitative method, approach namely distributing by questionnaires to gamers in online video games with a sample of 321 samples. The analysis of this study uses Partial Least Squares-based Structural Equation Modeling (PLS-SEM) with the results of the research namely proving that the advertising value of pop-up ads positively influences the state of being inspired-by, which in turn can determine the state of being inspiredfor gamers.

Another study conducted by [7] discussed the effect of the value of pop-up ads on advertising attitudes and their impact on purchase intentions. This study uses a quantitative approach method, namely by distributing questionnaires to people who have received pop-up advertisements on their mobile devices, a sample of 200 respondents was obtained. This study used Structural Equation Modeling (SEM) and AMOS analysis with the results of the study proving that the value of pop-up advertisements on mobile devices was assessed as "low", informativeness was assessed as "medium", and annoyance was assessed as "high", so that the attitude of respondents towards pop advertisements -up on mobile devices is rated

"moderate" and respondents' purchase intention for products in mobile device pop-up ads is rated "low".

Another study was conducted by [8] who examined the effectiveness of pop-up advertisements on social media for students using the Facebook application. This study used a qualitative approach by conducting interviews with 35 people. The results of this study prove that pop-up ads can influence buying a product, then pop-up ads are very effective for social media users, especially Facebook social media users.

In this study, we will examine the effect of pop-up ads based on research. The author will use a research model based on with the variables studied being Entertainment, Irritation, Incentive, Advertising Value, Inspired-By, and Inspired-To. The author will also distribute questionnaires to young video game users according to research and conduct research-based interviews. The results of this study will be analyzed using the Structural Equation Modeling (SEM) approach according to research and using the AMOS application according to research.

2. Research Method

This research was conducted with the aim of analyzing the effect of advertising value pop-up on the inspiration of teenagers who play video games, so knowing this analysis can prove how much interest everyone has to download new games from advertisements pop-up to teenagers in Batam City. The results of this study are expected not only to provide practical benefits to the industry in implementing advertising strategies, but are also expected to contribute academically and enrich the literature related to advertising research pop-up in video games.

The population of this study includes people who are residing in Batam City, especially teenagers. This research was conducted through a quantitative approach. The model in the research used is an adaptation of the research model conducted by [9]. In this study, an investigation will be carried out on Advertising Value which is influenced Entertainment, Irritation, and Incentive in pop-up advertisements for Inspired-By to Inspired-To teenagers in Batam City. The Research Model is presented in Figure 1.

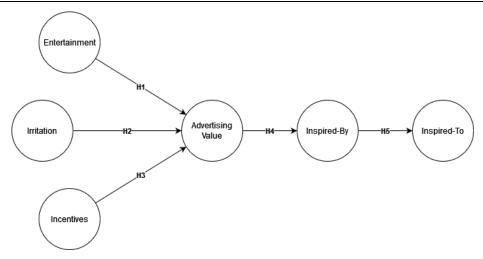


Figure 1. Research Model

The hypothesis (H) from Figure 1 is as follows:

- a. H1: The Advertising Value of pop-up ads influences Entertainment for video game users in Batam City.
- b. H2: The Advertising Value of pop-up ads affects the Irritation of video game users in Batam City.
- c. H3: The Advertising Value of pop-up ads affects the Incentives for video game users in Batam City.
- d. H4: The Advertising Value of pop-up ads influences the Inspired-By state of video game users in Batam City.
- e. H5: The Inspired-By state affects the Inspired-To condition of video game users in Batam City.

Questionnaires will be used in obtaining data as material for discussion in this study. The questionnaire was made in accordance with the instruments in the research that had been done previously. The following are the instruments used in this study which are presented in Table 1.

Variable	Indicator		
Entertainment	 I find pop-up ads while playing video games interesting. 		
	2. I find pop-up ads while playing video games enjoyable.		
	3. I find pop-up ads while playing video games entertaining.		
	4. I find pop-up ads during video game play exhilarating.		
	 I find pop-up ads when playing video games annoying. 		
Irritation	2. I find pop-up ads while playing video games annoying.		
	3. I find pop-up ads during video game play annoying.		
	1. I am satisfied with getting pop-up ads during video game play offering rewards.		
Incentive	2. I took action to get pop-up ads during video game play offering rewards.		
	3. I respond to pop-up ads during video game play to get incentives		
	1. I find pop-up ads during video games useful.		
Advertising Value	2. I find the pop-up ads during video game play very valuable.		
	3. I feel that pop-up ads during video game play are important.		
Inspired-By	1. During video game play, pop-up ads stimulate my imagination.		
	2. During video game play, pop-up ads intrigue me.		
	3. During video game play, pop-up ads give me new ideas.		

During playing video games, pop-up ads found something new for me.
 After watching the pop-up ad, I feel the urge to download a new game.
 After watching the pop-up ad, I feel the urge to download a new game.

After watching pop-up ads, I am motivated to download new games

3. After watching the pop-up ads, my interest in downloading new games has increased.

Table 1. Operational Definitions of Variables

This study used the SPSS application with the SEM analysis method (Structural Equation Modeling). SEM or Structural Equation Modeling is one of the analytical techniques that can enable testing of a series of relationships in a stimulant manner. SEM aims to present data in achieving a research objective and can apply many models in achieving answers to a series of research problem formulations [9]. The application of the SEM method uses SPSS and AMOS applications.

Inspired-To

This research is about the influence of advertising popup in video games on each user in the factor Entertainment, Irritation, Incentive, Advertising Value, Inspired-By, and Inspired-To.

3. Result and Discussion

Based on the results of collecting questionnaires, the authors obtained 385 respondents. Of the 385 samples, 385 samples were eligible to be tested, which means

that all samples received could be tested in this study. The questionnaire was given to find out how much influence pop-up ads in video games have on the inspired state of the people in Batam City where there are various questions that have been provided in the following Table 2.

Table 2. Respondent Data

Measure	Options	N	Percentage (%)	
Gender	Male	349	90.65	
Gender	Female	36	9.35	
	<17 Years	61	15.80	
Age	17 – 21 Years	301	78.20	
_	>21 Years	23	6.00	
Have played or	Yes	385	100.00	
are currently playing games	No	0	0.00	
II 0 1	Often	247	64.16	
How often do	Sometimes	97	25.19	
play video	Seldom	41	10.65	
games	Never	0	0.00	

In the table above Table 2 states that the questionnaire was filled out by respondents who were male, totaling 349 people from a total of 385 samples obtained with a percentage of 90.65% while as many as 36 (9.35%) respondents who filled out the questionnaire were female. Then the table shows that all the samples obtained are respondents who have played or are currently playing video games with a total of 385 respondents. Table 2 also shows that 247 (64.16%) of respondents often play video games, 97 (25.19%) of respondents play video games occasionally, and 41 (10.65%) of respondents rarely play video games in Table 3.

Table 3. Assessment of Measurement Model

Itoms	Indicator	Avaraga	Cronbach's	
items	Loadings	Average	Alpha	
EN01	0.959		0.968	
EN02	0.943	0.056		
EN03	0.962	0.936		
EN04	0.960			
IR01	0.960			
IR02	0.948	0.958	0.954	
IR03	0.967			
IN01	0.955			
IN02	0.964	0.962	0.959	
IN03	0.968			
AV01	0.957			
AV02	0.944	0.955	0.950	
AV03	0.965			
IB01	0.953			
IB02	0.946	0.055	0.967	
IB03	0.959	0.955		
IB04	0.960			
IT01	0.961			
IT02	0.941	0.055	0.067	
IT03	0.954	0.955	0.967	
IT04	0.962			
	EN02 EN03 EN04 IR01 IR02 IR03 IN01 IN02 IN03 AV01 AV02 AV03 IB01 IB02 IB03 IB04 IT01 IT02 IT03	Items Loadings EN01 0.959 EN02 0.943 EN03 0.962 EN04 0.960 IR01 0.960 IR02 0.948 IR03 0.967 IN01 0.955 IN02 0.964 IN03 0.968 AV01 0.957 AV02 0.944 AV03 0.965 IB01 0.953 IB02 0.946 IB03 0.959 IB04 0.960 IT01 0.961 IT02 0.941 IT03 0.954	Items Loadings Average EN01 0.959 Average EN02 0.943 0.956 EN03 0.962 0.956 EN04 0.960 0.960 IR01 0.960 0.958 IR03 0.967 0.955 IN01 0.955 0.964 IN02 0.964 0.962 IN03 0.968 0.957 AV01 0.957 0.944 0.955 AV03 0.965 0.955 IB01 0.953 0.959 IB02 0.946 0.955 IB03 0.959 0.955 IB04 0.960 0.960 IT01 0.961 0.951 IT02 0.941 0.955 IT03 0.954 0.955	

The results from Table 3 show that the reliability of the data has been estimated and the value of the Cronbach Alpha in each variable is higher than 0.7 which proves that all of these variables are declared valid. Before testing the hypothesis in this study, the goodness of fit was tested first. Goodness of Fit is a goodness of fit index which is usually used in statistical hypothesis testing, goodness of fit is obtained by using the asymptotic method. The goodness of fit test aims to describe how well a model fits a series of observations [10]. The goodness of fit experiment is based on several criteria shown in Table 4 such as the calculation of Chi Square, Probability, CMIN/DF, Goodness Fit Index (GFI), AGFI, Tucker-Lewis Index (TLI), CFI, and so on. The following results are obtained based on data processing using the AMOS application in Table 4.

Table 4. Goodness of Fit

Criteria	Results
Chi Square	4796.480 (fit)
Probability	0.000 (unfit)
CMIN/DF	25.650 (fit)
GFI	0.573 (unfit)
AGFI	0.473 (unfit)
TLI	0.713 (unfit)
CFI	0.744 (unfit)
RMSEA	0.253 (unfit)

From the results of the experiment in Table 4, there are several criteria that do not meet the minimum requirements (unfit). However, due to several other criteria that have met the minimum requirements, the entire model can be considered fit. Therefore, the hypothesis experiment can be continued in this study at Table 5.

Table 5. Estimation of Hypothesis Results

			Estimate	S.E.	C.R.	P	Remarks
AV	←	EN	.641	.024	26.596	***	Accepted
AV	←	IR	022	.009	-2.598	.009	Not Accepted
AV	\leftarrow	IN	.401	.016	24.616	***	Accepted
IΒ	\leftarrow	AV	.973	.039	24.844	***	Accepted
IT	\leftarrow	IΒ	1.005	.034	29.790	***	Accepted

In Table 5, the estimation states that Entertainment has a significantly positive influence on Advertising Value with a coefficient of 0.641. Then, the Irritation variable has a negative effect on Advertising Value with a coefficient value of -0.022. Then, the Advertising Value variable has a significantly positive effect on the Inspired-By variable with a value of 0.973. In addition, Inspired-To is also positively influenced by Inspired-By significantly with a coefficient of 1.005. All hypotheses that support this theory have been proposed in the previous discussion in Figure 2.

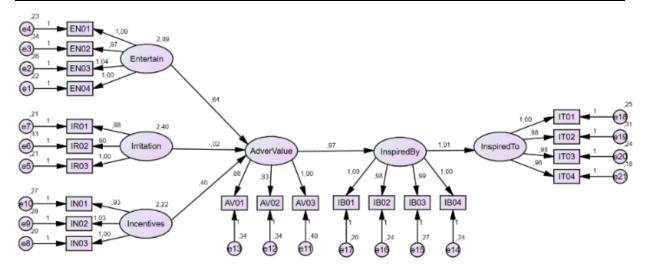


Figure 2. AMOS Research Model

This research was carried out aiming to analyze the incentives, the more significant the use of each of these effect of pop-up ads in video games on the condition of being inspired in every community in Batam City using SEM and AMOS. The results of this study prove that pop-up advertisements from video games can have an inspired effect on teenagers and can increase their interest in downloading new games. This study also proves that Irritation does not have a positive impact on Advertising Value. Meanwhile, Advertising Value has a statistically positive impact on Inspired-By and Inspired-By has a statistically positive impact on Inspired-To. The results of the research will be discussed in the following section.

First, the results of this study prove that entertainment has a positive impact on advertising value. In this section, Entertainment plays an important role in determining how entertaining an advertisement's Advertising Value is. Previous research has also proven that the Entertainment variable can have a positive influence on Advertising Value [11], other research carried out by [12] proved that the Entertainment variable has a very significant influence factor. The results of this study state that pop-up ads can be improved by making the content in the ads as attractive as possible.

Second, this study proves that Irritation does not have a positive impact on Advertising Value. These results suggest that not all pop-up ads provide consumers with a feeling of unsaturation. Research [13] proves that Irritation does not have a significant effect on Advertising Value. Although there are some who agree that pop-up ads are annoying, Irritation is not enough to affect Advertising Value [14]. Every pop-up ad that is created must also be ensured not to irritate users so that they can continue viewing the pop-up ad.

Third, this study also proves that incentives have a positive impact on advertising value. Previous research has proven that Incentives have a positive influence on Advertising Value, the higher consumer interest in

pop-up ads [15]. Research [16] also proves that incentives have a significant effect on advertising value. The results of this study prove that in addition to being able to provide entertainment, pop-up ads can also provide incentives for some users' applications.

Fourth, the results of this study prove that Advertising Value has a positive impact on Inspired-By. Research conducted by [17] proves that the Advertising Value variable has a significant influence on the Inspired-By variable. Thus the results of this study state that, the higher the value of a pop-up ad, the more inspired each user is to find something new.

Fifth, the results of this study also prove that Inspired-By has a significantly positive impact on Inspired-To. Research [18] states that Inspired-By has a significant effect on Inspired-To. Therefore, researchers found that with the Inspired-By state, each user can generate an Inspired-To state for the pop-up advertisements they

Based on the results of the five studies, it can be concluded that entertainment and incentives are needed in the process of creating pop-up ads for every video game. It is necessary to provide entertaining pop-up ads and get incentives to watch them, so that they can positively influence the Advertising Value of these pop-up ads. With good Advertising Value, it can positively influence the Inspired-By state which will then be followed by the Inspired-To state. The results of this analysis also prove that the results of this discovery can create a synthesis, where developers, game marketing, and advertisers can use this method in the process of developing pop-up ads. For example, users who play a video game where pop-up ads in the application can entertain and attract the user's attention to try the game, these pop-up ads can also help incentivize the video game.

In other words, pop-up ads that are entertaining and provide benefits in the form of incentives can increase the value of these ads so that they can trigger an inspired state for every user to download the games offered by these pop-up ads. Therefore, developers, game marketing, and advertisers in Batam City can continue to develop good and quality pop-up advertisements in order to increase the use of the games displayed in these pop-up advertisements.

4. Conclusion

The results of this study prove that the Entertainment and Incentive variables have a significant positive influence on the Advertising Value variable, which means that the quality of an advertisement can be improved by providing entertaining content and providing incentive benefits. Then, the Advertisement Value variable has a statistically significant effect on the Inspired-By variable, where the better or higher the value of an ad, the more inspired each user is to get imagination and make them interested in the content provided by the pop-up ad. After that, the Inspired-By variable affects Inspired-To statistically, meaning that by being inspired by the imagination of users, they can be motivated to download new games offered from pop-up ads. Based on the results of these conclusions, the video game industry that provides pop-up advertising services must always pay attention to the value of these advertisements both in terms of entertainment and incentives. Apart from entertainment and incentives, game developers, advertisers and marketing must also ensure that the content in these pop-up ads is easy to understand and does not irritate users. One recommendation that can be given is to ensure that each user can get used to the User Interface (UI) and User Experience (UX) provided by video games. Providing UI and UX consistency in pop-up ads contained in video games will reduce the feeling of boredom felt by users. The development of pop-up ads on video games will be continued in the future. The value in each pop-up ad must be considered good and entertaining in order to ensure that users do not feel irritated by the advertisements in the video game..

References (APA Style)

- [1] Barr, M., & Copeland-Stewart, A. (2021). Playing Video Games During the COVID-19 Pandemic and Effects on Players' Well-Being. *Games and Culture*, 17(1), 122–139. https://doi.org/10.1177/15554120211017036
- [2] A. Vatal. (2023). Comparative Analysis of Traditional Marketing Strategies versus Digital Marketing Strategies in Indian Tourism Industry. (2023). *International Journal of Early Childhood Special Education*. https://doi.org/10.48047/intjecse/v14i4.412
- [3] Kim, D., & Lee, J. (2021). Addictive Internet Gaming Usage among Korean Adolescents before and after the Outbreak of the COVID-19 Pandemic: A Comparison of the Latent Profiles in 2018 and 2020. International Journal of Environmental Research and Public Health, 18(14), 7275. https://doi.org/10.3390/ijerph18147275.

- [4] Rus-Arias, E., Palos-Sanchez, P. R., & Reyes-Menendez, A. (2021). The Influence of Sociological Variables on Users' Feelings about Programmatic Advertising and the Use of Ad-Blockers. *Informatics*, 8(1), 5. https://doi.org/10.3390/informatics8010005
- [5] Nasir, V. A., Keserel, A. C., Surgit, O. E., & Nalbant, M. (2021). Segmenting consumers based on social media advertising perceptions: How does purchase intention differ across segments? *Telematics and Informatics*, 64, 101687. https://doi.org/10.1016/j.tele.2021.101687
- [6] Abbasi, A. Z., Rehman, U., Hussain, A., Ting, D. H., & Islam, J. U. (2021). The impact of advertising value of in-game pop-up ads in online gaming on gamers' inspiration: An empirical investigation. *Telematics and Informatics*, 62, 101630. https://doi.org/10.1016/j.tele.2021.101630
- [7] Disastra, G. M., Hanifa, F. H., Wulandari, A., & Sastika, W. (2019). The Influence of Advertising Value on Advertising Attitude and its Impact on Purchase Intention. Proceedings of the Social and Humaniora Research Symposium (SoRes 2018). https://doi.org/10.2991/sores-18.2019.98.
- [8] Tambajong, M., Lapian, J. S., & Tumewu, F. J. (2019). The Effectiveness Of Pop Up Advertising On Social Media (Case Study: Facebook User At Student College Feb Unsrat Institution). Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi, 7(3). DOI: https://doi.org/10.35794/emba.v7i3.24035.
- [9] Gardenia, Y. (2014). Metode Structural Equation Model (Sem) Pada Pengukuran Kualitas Website Pemesanan Makanan Online. *Jurnal Sistem Informasi Universitas Suryadarma*, 5(2). https://doi.org/10.35968/jsi.v5i2.238
- [10] Maryam, U., Somayasa, W., Ruslan, R., La Gubu, L. G., & Jufra, J. (2022). Estimasi Parameter Dan Uji Goodness Of Fit Untuk Data Biner Berpasangan. *Jurnal Matematika Komputasi Dan Statistika*, 2(1), 1–12. https://doi.org/10.33772/jmks.v2i1.7
- [11]Mustafi, M. A. A., & Hosain, M. S. (2020). The role of online advertising on purchase intention of smartphones: mediating effects of flow experience and advertising value. *Journal of Contemporary Marketing Science*, 3(3), 385–410. https://doi.org/10.1108/jcmars-05-2020-0024
- [12]Kim, M. (2019). Determinants of Young Consumers' Attitude toward Mobile Advertising: The Role of Regulatory Focus. *Journal of Promotion Management*, 26(2), 186–206. https://doi.org/10.1080/10496491.2019.1699623
- [13] Mahatmavidya, P. A., & Yasa, N. N. K. (2020). Advertising Value Of Instagram Stories And The Effect On Millennial's Attitude. Russian Journal of Agricultural and Socio-Economic Sciences, 3(99), 29–39. https://doi.org/10.18551/rjoas.2020-03.04
- [14] Dobrinic, I. Gregurec, and D. Dobrinic. (2020). The Advertising Attitudes Of Internet Ads: A Study Among Croatian Generation Z, International Scientific Conference on Economic and Social Development, 99(3), 92–108, 2020, Accessed: Jun. 10, 2023. [Online]. Available: http://hdl.handle.net/11159/4859
- [15]Le, C. X., & Wang, H. (2020). Integrative perceived values influencing consumers' attitude and behavioral responses toward mobile location-based advertising: an empirical study in Vietnam. Asia Pacific Journal of Marketing and Logistics, 33(1), 275-295. doi: 10.1108/APJML-08-2019-0475/FULL/XML.
- [16] Choi, H. Mela, C. F., Balseiro, S. R. and Leary, A. (2020). Online Display Advertising Markets: A Literature Review and Future Directions. *Information Systems Research*, 31(2), 556– 575, Jun. 2020, doi: 10.1287/ISRE.2019.0902.
- [17] Meier, A., Gilbert, A., Börner, S., & Possler, D. (2020). Instagram Inspiration: How Upward Comparison on Social Network Sites Can Contribute to Well-Being. *Journal of*

Communication, 70(5), 721–743. https://doi.org/10.1093/joc/jqaa025

[18]Izogo, E. E., & Mpinganjira, M. (2020). Behavioral consequences of customer inspiration: the role of social media

inspirational content and cultural orientation. *Journal of Research in Interactive Marketing*, 14(4), 431–459. https://doi.org/10.1108/jrim-09-2019-0145.