The Influence of Time Scarcity on Buying Intention Level

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Abstract. Widespread use of features time scarcity on online shopping platforms appeared to have an impact on sales. One way that can be used is to apply time limits on several products that are experiencing price discounts. However, there is very little previous research that addresses influence time scarcity on someone's purchase intention. Therefore, this research wants to know the effect time-scarcity on purchase intention. Participants in the study were University of Indonesia students aged 18-21 years, totaling 50 people and each of them was divided into two groups with the same number. The sampling technique used is convenience random sampling And snowball sampling. The research design used is between-subject design. Then, the measurement of intention or the formulation of the problem to buy uses one question item, namely "How likely are you to buy the product?", with an interval scale of 1-10, where 1 means very unlikely and 10 meant very likely. The statistical analysis technique used is the Independent Sample T-Test. The results of this study indicate that there is influence time scarcity significant effect on purchase intention. Thus, application time scarcity can be used as a means to increase purchase intention.

Keywords:Buying Intention, Time Scarcity, Online Shopping.

1   Background

In this modern era, the existence of technology has changed human life. The more sophisticated a technology, the more impact it will have on the running of a business and human lifestyle, especially in the field of consumption behavior. The presence of this technology also invites new developments or phenomena in several fields, one of which is the economic field, especially usagee-commerce. In Indonesia itself, shopping onlineon linealready very popular. This is because we are given many choices of goods at various prices, practical, and easy to access. As aresult, shopping trendson linemore increasing. Example, on COVID-19 pandemic, sales frome-commerceincreased by 26% with 51% new customers, as revealed by the Head of the Bank Indonesia Payment System Policy Department [2].

Based on the mape-commerceIndonesia in Iprice (2020) [12], the results of a survey in the third quarter of 2022 show that Shopeee is a web-based application. e-commercewith the first rank in Indonesia with the most downloads on the App Store and Play Store from a total of 50 other applications. In addition, Shopee gets an average of 96 million visitors per month. From the data that has been presented, it shows that many Indonesian people believe that they are interested in shopping online on linethrough application basedecommerce, namely Shopee.

Business peoplee-commercethose who want to win the competition are required to have different characteristics or attractions from their competitors. Applications that can be made to outperform the market, namely (one of them) by applying scarcity (scarcity). Scarcity (scarcity) is present as a prominent product marketing strategy with limited opportunities to buy a product. When a product is scarce, a positive attitude will arise from consumers who think that the product is more valuable. According to Wu and Lee (2016, in Broeder & Wentink, 2022) [3] this positive attitude then creates consumers' desire to buy in order to increase product sales and reduce the possibility of consumers to look for even better offers. There are several variations of scarcity, namely scarcity in quantity supplied, demanded, and time. In the case of scarcity due to the quantity supplied, say "limited edition", the seller will pre-determine the number of products available then after the product runs out they will no longer sell it. Furthermore, scarcity is due to the quality of demand, for example "only … units in stock", means that the number of products available is limited due to high sales volume. Finally, time-related scarcity (time scarcity), for example "only available until …", means that consumers can only buy the promotional product according to a predetermined time. After the promotional period ends, the offer is no longer available [8][10].

Behavioral economics in a psychological view sees that consumers rely on shortcut cognitive processes and life experiences in making simple decisions. Limited time (time pressure) and time scarcity (time scarcity) is part of a psychological construct that may influence decision making. In this study, researchers using time scarcity (time scarcity) as a research variable. Deadline is expected to increase arousalor the desire arises from potential customers who make an irrational decision to buy an item even though the item is not currently needed when faced with time pressure and time scarcity. Referring to the explanation above, the researcher formulates a hypothesis, that there is an effect of time limit on purchase intention. Therefore, this study aims to determine whether there is an influencetime scarcity (IV) on product purchase intention (DV) ine-commerceShopee.

Time Scarcity. Time scarcity is a term most frequently encountered in the online retail environment. The concept of scarcity of time originates from the economic field, especially in the field of marketing or marketing and now extends to various fields up to the psychological field. The scarcity of time is also known as "time pressure" [5]. Time can increase the scale of arousal, psychological stress, and change human behavior [19]. Therefore, time scarcity is studied in marketing,

where the literature shows that time pressure influences consumer decision-making behavior [22]. Hanna, Swain, and Berger (2016, in Broeder & Wentink, 2022) [3] found that in online purchases, giving a time limit or a short time can lead to a greater sense of urgency, where consumers will feel the need to immediately finish the time and take action. This leads consumers to higher purchase intentions.

According to Peng et al, (2019) [18], in general purchasing goods with a time limit allows a person not to read and understand thoroughly about the product he wants to buy. However, time scarcity should be stated explicitly, as this would give the impression that there was not enough time for buyers to find substitute products or more attractive deals, which could increase purchase intensity. Such as including the element of time scarcity, namely "time-left-to-buy". The results of a study conducted by Aggarwal and Vaidyanathan (2003, in Chang & Chen, 2015) [5] showed that there was a positive effect on buyer enthusiasm when there was a short time limit, and mentioned explicit. Limited time scarcity refers to a situation where an item listed on a website is only available for a certain period of time, and offers become unavailable after the deadline expires (Gierl et al., 2008; Gupta, 2013, p. 41).

Buying Intention. According to Assael (in Priansa, 2017) [17] purchase intention is the tendency of consumers to buy a product or take actions related to purchases as measured by the level of possibility consumers make purchases. Purchase intention can also mean the consumer's desire to make a purchase or plan to make a purchase (Rubiyanti & Pradana, nd). Priansa (2017) [17], states that the intention to buy focuses on something that is accompanied by a feeling of pleasure towards the item, then the individual's intention creates a desire to create something convincing by feeling that the item has benefits so that the individual wants to own the item by paying or exchanging it. with money.

2   Method

Participant. Participants in this study were students in Indonesia totaling 50 individuals with ages ranging from 18-21 years (M= 19.3 ,SD= 0.905). Participants will be divided into two groups with the division of group A as many as 25 individuals and group B as many as 25 individuals. The sampling technique used isconvenience random samplingnamely by spreading the statement link following the research. Samples were selected based on the available population and easily accessible by researchers. Researchers also use techniquessnowball sampling which aims to disseminate the research link to the closest individuals of those who have given consent to participate in the research.

Research design. This research is an experimental researchbetween subjectswith IV formtime scarcity and DV in the form of intention to buy the product. Given different treatments between groups, where variationtime scarcityie with a time limit (X1) and without a time limit (X2) compared between the two groups.

Possible secondary variables in this study are taste, familiarity, brand image, and needs. The control that the researcher uses is constant. The form of accounting applied in this research is that the researcher makes his own product design. So, there is no bias in filling out the questionnaire towards products that match the participants' tastes, familiarity, and brand image. In addition, to control for EV needs, researchers try to position participants as students who are in need of these products.

Buying Intention Measuring Tool. The measuring tool used for purchase intention is a scaled questionnaire with a single question, namely "How likely are you to buy the product?". The scale in this study is 1-10 t where 1 means very unlikely and 10 means very likely. As for the question of the formulation of the problem that the researcher presents, namely
- How likely are you to buy the product t?
- what kind of products are affected by time scarcity?
- when did you experience the intention to buy?

3   Research Procedures

Sample Selection. The sample selection in this study was carried out by dispersingbroadcastswhich explains the criteria of participants who are in accordance with this study. Then if the participant criteria are met, it will proceed with filling in the pooling data informed consent,and participant personal data.

Data collection
Research Implementation Stage

1. Researchers share jarkoman through personal social media from each researcher. The poster contains the criteria for research participants, and links to questions in the Google form.
2. Researchers providegoogle forms linkresearch throughchatpersonal social media. On the first sheet of the questionnaire (google forms) containinginformed consentthat participants need to pay attention to before filling out the next questionnaire sheet. If the participants are willing to participate, the researcher provides columns to fill in brief personal data and then the participants will be directed to the next questionnaire sheet, namely narratives and illustrations regarding the Effect of Time Scarcity on Purchase Intentions at Shopee by displaying product images, namely toothpaste.
3. If all questions have been answered, the researcher ensures that participants have submitted and sent answers by sending evidence in the form ofscreenshotsto the contact's WhatsApp. Ifthe answers have been confirmed to be recorded, participants are allowed to leave the Zoom Meeting.
4. Collecting data from all participants' answers togoogle formsrecorded by researchers.

4   Results

Demographic and Age Data

	n	%	Mean s	SD
Age			19.3	0.905
18 years	11	21.15		
19 years old	22	42.30		
20 years	14	26.92		
21 years	5	9.61		
Shopee members			1.65	0.623
Silver	22	42.30		
gold	26	50.00		
Platinum	4	7.69		

Influence ResultsTime Scarcityon Purchase Intention

	df	F	p.s	Sum of Square	t	Mean Differences	η^2
Time Scarcity	50.0	6.05	0.017	33.9	2.46	1.62	0.108

From this study, it shows the results of the effect of time scarcity on purchase intentions there is a significant effect of time scarcity on purchase intention. From processingdata above researchers do, researchers get a significant relationship betweentime scarcityon buying intentions of University of Indonesia students. It is also statedtime scarcitywill increase the value of a product being sold so that customers are pressured to buy the product. The results of this study show conformity with the initial hypothesis that the researchers formulated.

5   Discussion

This research describes abouttime scarcity, buying intensity, and influencetime scarcity on the intensity of buying active University of Indonesia students who have an age range of 18-21 years and usee-commerceShopee. This study has an initial hypothesis that there is a significant effect oftime scarcityon buying intensity. It is based on the assumption thattime scarcitycan increase the intensity of buying in students and produce scores that are significantly different when compared to the other two variation groups (with a time limit and without a time limit). After data processing is done, researchers get a significant relationship betweentime scarcitytowards the intention to buy active students at the

University of Indonesia. This study also has results supported by Chung et al. (2017) [6] in (Li et al., 2021) which states thattime scarcityconsidered to increase the value

of a product presented so as to make customers want to buy the product. The results of this study show that there are similarities with the initial hypothesis formulated by the researcher.

In addition, even though there is a significant relationship between the two variables, this study still has some drawbacks such as difficulty in controlling confounding variables and there is no strict control in the data collection process so that participants can manipulate the results of their answers. In addition, one of the groups in the study has values that are not normally distributed, which may interfere with internal validity, so that in the future the research team must provide manipulation check. In the buying intensity variable, researchers used a measuring tool in the form of a questionnaire with a scale of 1–10 where a scale of 1 means very unlikely and 10 means very likely. This questionnaire aims to measure the intensity of buying in students by using a single question "How likely are you to buy the product?" with the criteria of participants who are students at the University of Indonesia aged 18-21 years, do not have personal income, and are members ate-commerce Shopee. After all participants had filled out the questionnaire, it turned out that there were 2 participants who already had personal income so the researchers did not use these two data in this study.

Relationship between variables time scarcity and buying intentions of students can be described in competitive words. Broeder & Wentink (2022) [3] explains that the occurrence of scarcity means there is a feeling of competition and a feeling of high desire that can change individual behavior. Furthermore, Nichols (2012) explained that the feeling of competition can make individuals achieve certain goals. Another study conducted by Aggarwal and Vaidyanathan (2003) also agrees with this statement and they have demonstrated how time scarcity or time scarcity positive effect on the desire of individuals to buy goods and make individuals not to look for the desired goods elsewhere.

In addition, the relationship between time scarcity and purchase intention can also be explained through certain emotional feelings, such as regret. Gupta & Gentry (2019) explain that regret is a feeling that individuals tend to want to avoid. Several studies (Josephs et al. 1992; Li et al. 2010; Richard, Van der Pligt, and De Vries 1996) in (Gupta & Gentry, 2019) state that anticipation of feelings of regret can lead individuals to make safer decisions. This was followed by Simonson's (1992) statement that individuals who avoid feelings of regret would prefer to buy goods that are being sold in the current scarcity rather than having to wait to get a higher price, lower in subsequent sales. From the two theories described earlier, it can be assumed that participants may feel either one or both of these theories so they decide to buy goods that they really need, especially with limited time.

6   Conclusions and Suggestions

Based on the results of the research that has been done, it can be concluded that

there is a significant time limit effect on student purchase intentions based on the acquisition of purchase intention scores from a scale of 1 to 10. The results of this study are expected to provide information for sellers and buyers who are in need of a product that the limitations time applied toe-commercecan be used as an opportunity to influence purchase intensity.

With the limitations in this study, there are several suggestions from researchers regarding further research. The first suggestion is to involve more participants in the research. The more participants, the results will have a tendency to vary. The results obtained will also be more representative targeting all backgrounds and ages. The next suggestion is to carry out research offline. This allows researchers to control all possibilities that affect research, such as uniformity of time, place, and work situation. Third suggestion, domanipulation check.Manipulation checkused to measure whether the purchase intention variable really has an effect on participants and also as an additional measurement in experimental research conducted with the aim of assessing whether participants understand and how participants interpret manipulation and/or to measure the direct effect of manipulation.

References

1. Aggarwal, P., and R. Vaidyanathan. 2003. "Use It or Lose It: Purchase Acceleration Effects of Time- Limited Promotions."Journal of Consumer Behavior2(4): 393–403. doi:10.1002/cb.116.
2. Ayu, Sandra, and Ahmad Lahmi. (2020). "The Role of E-Commerce in the Indonesian Economy During the Covid-19 Pandemic."Journal of Business Management Studies9(2):114. https:// doi.org/10.24036/jkmb.1099410 0
3. Broeder, P., & Wentink, E. (2022). Limited-time scarcity and competitive arousal in E-commerce.
4. International Review of Retail, Distribution and Consumer Research. https://doi.org/ 10.1080/09593969.2022.2098360
5. Chang, YT, Yu, H., & Lu, HP (2015). Persuasive messages, popularity cohesion, and messages diffusion in social media marketing.Journal of Business Research, 68, 777e782.
6. Chung, N., Song, HG, & Lee, H. (2017). Consumers' impulsive buying behavior of restaurants products in Social Commerce.International Journal of Contemporary Hospitality Management, 29(2), 709–731. https://doi.org/10.1108/ijchm-10-2015-0608
7. Elysabeth, NR, & Pradana, M. The Effect of Social Commerce Construct on Consumer Trust and Purchase Intention (Study on Shopee E-Commerce Users in Indonesia).
8. Gierl, H., Plantsch, M., & Schweidler, J. (2008). Scarcity effects on sales volume in retail.the International Review of Retail, Distribution and Consumer Research, 18(1), 45e61. http:// dx.doi.org/10.1080/09593960701778077
9. Godinho, S., Prada, M., & Vaz Garrido, M. (2016). Under pressure: An integrative perspective of time pressure impact on consumer decision-making.Journal of International Consumer Marketing, 28(4), 251e273.
10. Gupta, S., & Gentry, JW (2019). 'Should I Buy, Hoard, or Hide?' - Consumers'

responses to perceived scarcity.International Review of Retail, Distribution and Consumer Research, 29(2), 178–197.https://doi.org/10.1080/09593969.2018.1562955

11. Ika, D., & Jalantina, K. (nd). (2019) The effect of price discounts and store atmosphere against Impulse buying with shopping emotions as an intervening variable in consumers of Super Indo Retail Semarang.

12. Iprice. (2020).Indonesia E-Commerce Map.

13. Josephs, RA, Larrick, RP, Steele, CM, & Nisbett, RE (1992). Protecting the self from the negative consequences of risky decisions.Journal of Personality and Social Psychology, 62(1), 26–37. https://doi.org/10.1037/0022-3514.62.1.26

14. Li, C., Wang, Y., Lv, X., & Li, H. (2021). To buy or not to buy? The effect of time scarcity and travel experience on tourists' impulse buying.Annals of Tourism Research,86(July 2020), 103083. https:// doi.org/10.1016/j.annals.2020.103083

15. Nichols, BS 2012. "The Development, Validation, and Implications of a Measure of Consumer Competitive Arousal (Ccar)."Journal of Economic Psychology33(1):192–205. doi:10.1016/j.joep.2011.10.002.

16. Noor, ZZ (2020). The effect of price discounts and in-store displays on impulse buying.Sociohumanities,22(2).https://doi.org/10.24198/sosiohumaniora.v22i2.26720

17. Priansa, DJ 2017.Consumer behavior in contemporary business competition. Bandung: Alphabet.

18. Peng, L., Zhang, W., Wang, X., & Liang, S. (2019). Moderating effects of time pressure on the relationship between perceived value and purchase intention in social E-commerce sales promotion: Considering the impact of product involvement.Information and Management, 56(2), 317–328.https://doi.org/10.1016/j.im.2018.11.007

19. Rau, PLP, Zhou, J., Chen, D., & Lu, TP (2014). The influence of repetition and time pressure on effectiveness of mobile advertising messages.Telematics and Informatics, 31(3), 463e476.

20. Richard, R., van der Pligt, J., & de Vries, N. (1996). Anticipated affect and behavioral choice.Basic andAppliedSocialPsychology,18(2),111–129. https://doi.org/10.1207/ s15324834basp1802_1

21. Simonson, I. 1992. "The Influence of Anticipating Regret and Responsibility on Purchase Decisions."Journal of Consumer Research19:105–118. doi:10.1086/jcr.1992.19.issue-1.

22. Thomas, RW, Esper, TL, & Stank, TP (2010). Testing the negative effects of time pressure in retail supply chain relationships.Journal of Retailing, 86(4), 386e400. http://dx.doi.org/10.1016/j.jretai.2010.07.011