

# Understanding Millennial's Online Buying Behavior During Pandemic Covid-19

**Nizam Mohammad Andrianto· Kiki Oktora**

Departement of Management Faculty of Economics, Universitas Pakuan, Indonesia  
[nizam.mohamad@unpak.ac.id](mailto:nizam.mohamad@unpak.ac.id); [kiki.oktora@unpak.ac.id](mailto:kiki.oktora@unpak.ac.id)

**Abdul Talib Bon**

Department of Production and Operations, University Tun Hussein Onn Malaysia, Malaysia  
[talibon@gmail.com](mailto:talibon@gmail.com)

## Abstract

The challenge the world facing at the moment regarding this global pandemic is not only people's health but also many aspects that will have many implications that might last well into the decade. This situation is rapidly changing the industries of all shapes and sizes. The economic turn-around does having noticeable impact on consumers buying behavior, from travel & tourism, to dining and recreation, and whether for business or pleasure. This study examines the change of buying behavior in Millennials during Pandemic Covid 19. Quantitative Research Method using Self-Administered Questionnaire was applied to non-probability convenience samples of 396 students in Faculty of Economics Universitas Pakuan, Bogor. The data collection has been processed and analyzed with SEM Lisrel and concluded that among three variables; Marketing Stimuli, Social and Psychological factors, Marketing is found to be the most influence factor for Buying Decision.

## Keywords

Marketing, Buying Behavior, Online, E-Commerce, Millennials

## 1. Introduction

In the early of 2020, the world has been shocking against the unprecedented virus that threatens all global citizen -- the covid-19 virus. According to WHO, As of 30 June 2020, a total of 10.185 374 people has been reported confirmed for coronavirus disease (COVID-19) globally. Among these, there have been 503.862 deaths reported related to COVID-19 (WHO, 2020) The challenge the world facing at current moment regarding this pandemic is not only people's health but also many aspects that will have many implications that might last well into the decade. These days more than one-third of the world population is under some form of lockdown (Bryson, 2021)

The situation is rapidly changing the industries of all shapes and sizes. This economic turn-around does having noticeable impact on consumers buying behavior, from travel & tourism, to dining and recreation, and whether for business or pleasure. Significant reductions in income, a rise in unemployment, and disruptions in the transportation, service, and manufacturing industries are among the consequences of the disease mitigation measures that have been implemented in many countries (Gilsenan, 2020)

In addition to the impact on productive economic activities, consumers typically changed their spending behavior, mainly due to decreased income and household finances, as well as the fear and panic that accompany the epidemic. (Accenture, 2020) The COVID-19 pandemic has fundamentally changed the world as we know it. The covid-19 pandemic has made people become living differently, buying differently and in many ways, thinking differently. Supply chains have been tested. Retailers are closing doors. Consumers across the globe are looking at products and brands through a new lens (Accenture, 2021)

Subsequently, this consumer behavior change has led to e-commerce. In 2019, e-commerce accounted for more than half of the digital economy in Indonesia with its US\$21 billion contribution to the overall economy. The striking growth of Indonesia's e-commerce sector has made it one of the fastest-growing markets in the world.

When reviewed annually, Indonesia's digital economy has grown almost fivefold from US\$8 billion in 2015 to US\$40 billion in 2019.(<https://insight.sirclo.com>, 2020)

Both consumers and businesses have turned to e-commerce platforms as their alternative channels for continuity in these uncertain times. Purchases via e-commerce increased 18,1% to 98,3 million transactions for a total transaction of \$ 1,4 million USD. It is estimated that there are around 12 million new e-commerce users currently based on RedSeer research (StatistaB, 2020 ; Sirclo, 2020). This signals that numerous non-essential brick-and-mortar stores that were forced to close temporarily due to partial lockdown measures have resorted to e-commerce to keep their business running.(<https://insight.sirclo.com>, 2020)

This increasing trend has been dominated by generation Z and millennials who contribute 85% of total transactions. As many as 85% of transactions were carried out by vulnerable consumers aged 18 years-35 years, aged 18 years-25 years (36%) and 26 years-35 years (49%). Millennial generation or generation Y is a group of people born in the 1980s to 1997. Meanwhile, generation Z are people born in the 1995-2000 period (Muazam, 2020)

Furthermore, generation Z and millennials are familiar with digital purchasing and payment systems. Another factor is that the 15-30 year age group also dominates internet usage, compared to other age groups. Research by the Indonesian Internet Service Providers Association (APJII), which states that internet users are dominated by the younger generation. Where the internet penetration for the ages of 15-19 years reached 91%, followed by 20 years-24 years (88.8%), and 25 years-29 years (82.7% (Muazam, 2020). Based on the global phenomenon described previously, this study attempts to understand the change of online buying behavior among millennials during pandemic Covid-19, particularly in Bogor Area, Indonesia.

## **2. Literature Review**

### **2.1. Marketing Stimuli Factors**

Marketing stimuli which has been well known as a marketing mix, consist of Product, Price, Place and Promotion (Kotler, P., Armstrong, G., & Cunningham, 2008)) Thousands of research has been done to examine marketing impact for online shopping intention. Customer might attract to one of Marketing mix element behind their purchase intention reason. Price had found to be the first majority that affect buying decision (Bee Lian et al., 2016), particularly price sensitivity (Bellenger & shopper. Journal of retailing, 56(3), 1980, Richa & Vadera, 2019) The second main factors impacting the buying decision are Product and place (Mallapragada et al., 2016) (Adnan, 2014) the quality and appearance of product, as well as the place such as store atmosphere and online store layout design gives portion to customer's consideration to do online buying (Wu et al., 2013) The other P, namely Promotion is playing an important factor in terms of buying decision that might show in form of promotion mix for instance advertising, personal selling etc(Hafiz & Ali, 2018) as well as the context cues and perceived functional value (Xiao et al., 2019). Therefore, it is expected there is a relationship between Marketing stimuli and buying decision, thus the first hypothesis is:

**H1. Marketing Stimuli will influence the online buying decision among millennials**

### **2.2. Psychological factors**

Psychological factors are internal individual factors such as motivation, perception, attitude, learning and personality (De Bono,2000 (Tan & Goh, 2018). Online customer buying decisions are influenced by various psychological factors such motivation, perception learning ,attitudes, lifestyle and beliefs (Kotler, P., Armstrong, G., & Cunningham, 2008) (Chami, 2013; Xiao et al., 2019)Some researches had been done to prove psychological factors gives impact to millennials or online shopper behaviour and lead to do purchasing (Farhangi, 2014; Seo & Lang, 2019; Vinita et al., 2019; Wu et al., 2013) Psychological factors were also found to be the main factors influencing women to purchase online (Chauchard et al., 2020) However, other study had revealed the negative impact of psychological factors towards online group buying intention and more positively correlated with social influence and conformity (Chen & Lu, 2015) Hence the hypothesis is :

**H2. Psychological Factors will influence the online buying decision among millennials**

### **2.3. Social factors**

Previous research has been proven that social need is an important factor during online shopping (Shim et al., 2001) stated that social factors such as social experience outside home, communication with other, association peer group and status and overall are sense of authority e- consumers. In 2004, Rohm and Swaminathan identified social interaction as a significant motivator for e-shopping). In the millennial consumer context, social influences were proved to impact to purchase intention among millennials (Piarna et al., 2020)Given that social influence is not

trivial aspects, therefore this study use this factor to examine its impact to online buying decision. The third hypothesis is:

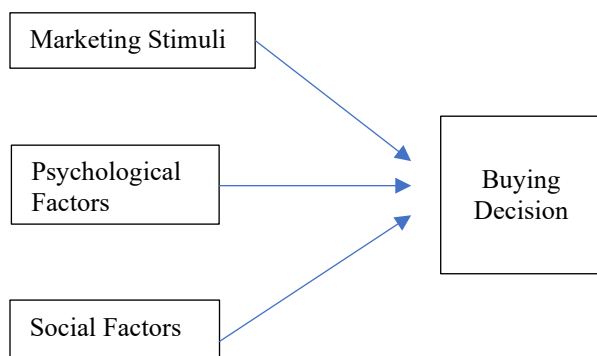
**H3. Social Factors will influence the online buying decision among millennials**

**2.4. Millennials online shopper**

Millennials or known as generation Y, are those who were born in or after 1980 and who entered the labour market in 2000s. Their characteristics are highly educated than previous generations, highly competent users of informations and communication technologies and easily adapt to the world of social media (Deal et al., 2010) (Kowske et al., 2010) Within Millennials social media has gained particular relevance for socialising, and experiencing a sense of community (Amanda Lenhart and Mary Madden, 2009), whilst using it as a source of information, leisure and entertainment (Valkenburg et al., 2006)

As they mostly rely on digital to undertake their daily activities, their shopping behaviour is as well done through online. Previous research had found the factors that influence millennials to do online shop. Most striking is their willingness to reach out and be influenced by other people beyond the control of any retailer – using platforms that are not necessarily specifically related with any retailer (Hall & Towers, 2017). This means they completely do not want to be interfered with any ‘hard selling’ advertisement and tend to look for an honest review or testimony from those they have trusted, for example a well-known influencer. Another study discloses that product variety and online reviews are two factors which significantly influence the shaping of online purchase intention among millennials especially in the case of online fashion stores (Sethi et al., 2018)

Based on the hypotheses given above, the research model is described on the figure 1 down below.



**Figure 1. Conceptual Model**

**3. Research Methodology**

**3.1 Sampling and Measurement**

A quantitative research method has undertaken to gain a confirmatory factor analysis of this study hypotheses. A survey questionnaire was conducted to 400 millennials in Bogor using google form during a week. Respondents were required to be between 18 and 35 years old (Gen Y criteria), be living in Bogor and having purchased an item through online, be it marketplace and social media. All the collecting data were tested for its reliability and validity using SPSS. Then SEM Lisrel was employed to process the data collection to be able to get the result and be analyzed.

After developing the model, there are different indicators for estimating the goodness of fit of the model with observed data. In general, numerous indexes are used for measuring the model fitness but three to four indexes are usually used for confirming it. In general, all common indexes are applied for evaluating the goodness of fit of the model. The values consist of RMSEA, CFI, NNFI, NFI, AGFI, GFI and RMR (Branch, 2017). In this study, CFI, GFI and Standard RMR were used to measure the fitness of the model

**3.2. Research Instrument**

The questionnaire was created in Google form and shared to the respondents through email and google form link. The questionnaire was adopted from the previous research done by Sonwaney and Chincholkar (Sonwaney & Chincholkar, 2019) who identified the factors impacting online consumer buying behavior. Each exogenous variable consists of several items as indicators (Table 1)

**Table 1. Indicators of Exogenous Variables**

No	Variables	Code	Indicators	Likert Scale
1	Psychological Factors	Q2.1	I like to do online shopping because it saves time	Strongly Disagree – Strongly Agree
2		Q2.2	I like to do online shopping because I can shop anywhere (Convenience)	
3		Q2.3	I like to do online shopping because I can do shopping anytime (Convenience)	
4		Q2.4	I like to do online shopping because there will be no parking/traveling cost (Convenience)	
5		Q2.5	I like to do online shopping since Pandemic Covid 19 because I am afraid to get infected when I go out for shopping (Anxiety)	
6	Marketing Stimuli Factors	Q3.1	I like to do online shopping because I get better price	
7		Q3.2	I like to do online shopping because I get better variety of product	
8		Q3.3	I like to do online shopping because I get branded products	
9		Q3.4	I like to do online shopping because products are not available in offline store	
10		Q3.5	Promotional offers through social media influences me to shop online	
11	Social Factors	Q4.1	I like to do online shopping because I do not like to interact with salesmen/shopkeeper	
12		Q4.2	I like to do online shopping because my family and friends also do online shopping	

Meanwhile, table 2 describes the endogenous variable and its indicators.

**Table 2. Indicators of Endogenous Variables**

No	Variables	Code	Indicators	Likert Scale
1	Buying Decision	Q6.1	Price is important factor for me to buy a product through online	Strongly Disagree – Strongly Agree
2		Q6.2	Product Quality is important factor for me to buy a product through online	
3		Q6.3	Brand is important factor for me to buy a product through online	
4		Q6.4	Policies, After sales services, Return and Guarantee are important for me factor to buy a product through online	
5		Q6.5	Social Media review is important factor for me to buy a product through online	
6		Q6.6	Quick Delivery time and fast response are important factor for me to buy a product through online	
7		Q6.7	Family/Friends suggestion is important factor for me to buy a product through online	

## 4. Research Result

### 4.1. Demography Profile of the Respondents

Of all the 400 respondents who filled out the google form questionnaire, there were six which were eliminated from the excel and the rest 394 are selected to be processed using SEM Lisrel. All the respondents are ongoing bachelor students in faculty of Economics, Universitas Pakuan who also resided in Bogor. In terms of Demography profile, their age ranges from 18 to 25 years old. Of all the 400 respondents, the proportion of female

respondents is 63,2% (252) while male respondents account for 37.3% (149). The majority of their marital status are 99% single, defined by the number of 396 respondents. The rest quantity which is 4 people (1%) and 1 people (0.3%) are having been married and divorced respectively. For their monthly income, it is widely ranging from more than one million (64.4%), between one million to three million (22.4%), three million to six million (8.6%), six million to nine million (2.3%) and the rest 3% respondents earning more than nine million per month.

Additionally, there are nearly 50% of respondents comes from big family that have more than three siblings, while the other 54 % are having smaller number of siblings. In terms of gadget knowledge, this study divides them into category of less expert-average-more expert-very expert. First rank goes to 66% of them or 264 respondents are considered to be ‘average’ user, while the second number is more expert user which went for 32% (128 respondents), the least category are less expert for 2% (8 respondents) and 1.5% (6 respondents) considered very expert.

#### 4.2. Result from SEM Lisrel

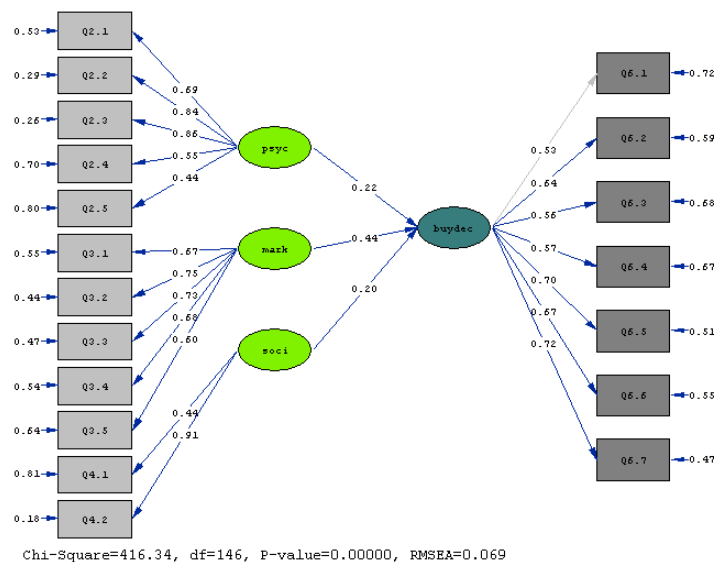
The questionnaire from excel form was being imported into SPSS file and processed to find the reliability and validity of each of the indicators. According to Cronbach Alpha formula, All the result of indicators is reliable and valid. Continuing with the data processing using SEM Lisrel, syntax was made to create the conceptual model and to find the fitness of the model.

#### 4.3. Goodness of Fit of the Conceptual Model

There are some indicators to estimates the goodness of fit of the model, but in this study, only three indicators are used : CFI, GFI and AGFI. The GFI index (i.e. goodness of fit) commonly evaluates the relative values of variances and covariance through the model. The GFI index ranges from zero to one. The value of GFI should be equal with or higher than 0.90. The number of GFI in this research is 0.90 which indicates that the value is equal to 0.90.-The CFI (Comparative Fit Index) Index is acceptable for values equal to and larger than 0.90 and it represents the fitness of the model. The values of CFI in this study found to be 0.91.This means the values is higher than 0.90 and considered to be fit.

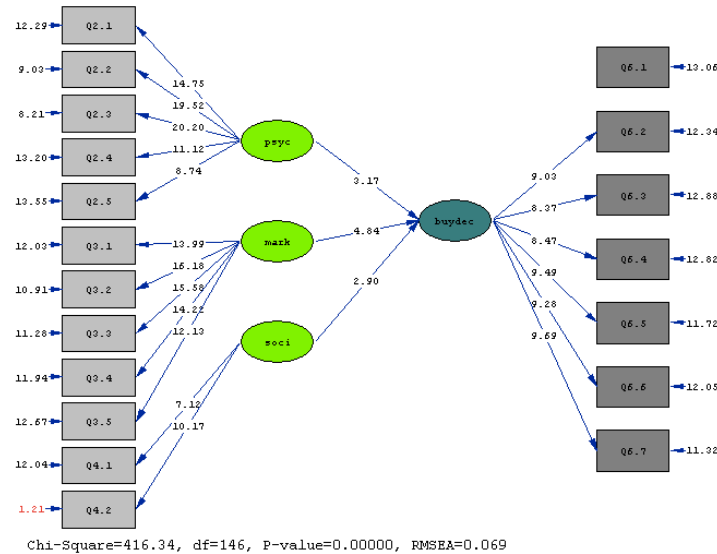
The last estimation value is Standard RMR which defines as Root Mean Square Residual. The values should be equal to or less than 0.05. The RMR value of this study revealed to be 0.05. This is considered to be fit as well. All the three values are sufficient to validate the fitness of the structural model. After the structural model has been fit, the path coefficient and t-values were measured to find the correlation between variables exogenous and endogenous. The figure 2 shown the output of standardized solution following with the t-values output in figure 3. These conceptual models represented all the indicators and each variable which define the relationships to each other

As shown on the figure 2, Marketing stimuli factors has the highest coefficient for 0.44 followed by Psychological Factors for 0,22 and the least is accounted for 0.20 goes to Social factors. Each indicator is having their coefficient ranging as well. Firstly, for Psychological Factors, Q.2.3 has the highest coefficient for 0.86 followed by Q2.2 with slightly close value of 0,84. Next rank are Q2.1 until Q2.5 with 0.69, 0,55 and 0.44 respectively



**Figure 2. Standardized Solution**

Meanwhile for Marketing Stimuli, the highest values are accounted for 0,75 (Q3.2) and 0.73 (Q3.3). Q3.4 and Q3.1 are following with a little difference number of 0.68 and 0.67. Least value is 0.60 goes to Q3.4. As for the Social factors which only has two indicators, has coefficient value of 0.91 for Q4.1 and 0,44 for Q4.2.



**Figure 3. T-Values**

Moreover, the path coefficient for each indicators of endogenous variable (buying decision) are mentioned of having Q6.1 as the highest value for 0.72. Following that, Q6.3, Q6.4, Q6.2, Q6.6, Q6.5 and Q6.7 elucidate for numbers of 0.68, 0.67, 0.59, 0.55, 0.51 and 0.42 individually. The T-values were used to define the significance level of relationship between variables. As it is seen on the figure 3, the t-values account for all endogenous variables report to have numbers larger than 1.96 which indicates all the factors are significantly influence the endogenous variable. Marketing stimuli has the strongest influence for 4.84, following that is psychological factors for 3.17 and lastly, social factors resolve for 2.90.

## 5. Discussion

To be concluded, by the data, the indicators for convenience that explain “can do shopping anytime” is found to be the most influence aspect in psychological factors. ‘can do shopping anywhere” is the next major aspect that motivate millennials in terms of their psychological factors to do online buying during pandemic. These both means, online buying is convenient to do because no time limit as offline store does (open and close time). The terms anywhere explained as buyers can shop anywhere, be it from their home or office or in the middle of the traffic in their car.

Meanwhile for Marketing Stimuli, the aspect of variety of product and brand are the most factors indicating their marketing stimuli. In contrast, millennials consider the availability of the product in offline store as the least factors that influence them to buy online. Equally important, the social factors found to be influence mostly by seeing their peers or family is also doing online buying. This indicates, millennials tend to see their close circle as their influencer in terms of marketing stimuli. Last of all, both price and brand indicate as the biggest influence

aspects for millennials to do buying decision, followed by policies or after sales service and product variety. However, family and friend's suggestion revealed to be the least aspect that give impact on their buying decision.

Accordingly, it has been revealed that all of the path coefficient of the hypotheses of this study are confirmed because the t-values for all the variables is more than 1.96. As a result, all of the developed hypotheses are supported. The first hypotheses were resulting a significant association between Marketing Stimuli and Buying Decision. As we can see on the figure 2, the impact factor for marketing stimuli accounted for 0.44 which means 44 percent the contribution of marketing stimuli to buying decision. The second most influence aspect is Psychological factors with the impact factor of 22% while Social factors become the least aspect influencing buying decision with the number of 20%. The ranking of the hypotheses is shown in the table 3.

**Table 3. Hypotheses Result**

Hypotheses	Direction	Coefficient	T-Values	Result	Rank
H1	Marketing Stimuli Influence Buying Decision	0.44	4.84	Supported	1
H2	Psychological Factors influence Buying Decision	0.22	3.17	Supported	2
H3	Social Factors influence Buying Decision	0.20	2.90	Supported	3

Finally, this study limitation is concerning to the research coverage area which is only around Bogor. Next research can be executed to explore wider area such as Jabodetabek (Jakarta Bogor Depok Tangerang and Bekasi). Also, professionals such as employee, might be employed as a sampling to gain deeper confirmation, thus, next study could be able to test the difference between students and professionals related to their buying behavior in e-commerce.

## References

- Accenture. (2020). How COVID-19 will permanently change consumer behavior. *Accenture, April*, 1–9.
- Accenture. (2021). *Covid19 : How consumer behavior will be changed*. <https://www.accenture.com/id-en/insights/>.
- Adnan, H. (2014). An Analysis of the Factors Affecting Online Purchasing Behavior of Pakistani Consumers. *International Journal of Marketing Studies*, 6(5). <https://doi.org/10.5539/ijms.v6n5p133>
- Amanda Lenhart and Mary Madden. (2009). Teens, Privacy & Online Social Networks: Managing online identities and personal information in the age of MySpace. *Pew Internet & American Life Project Report*. <http://pewresearch.org/pubs/454/teens-privacy--online-social-networks>
- Bee Lian, S., Safari, M., & Mansori, S. (2016). The Marketing Stimuli Factors Influencing Consumers' Attitudes to Purchase Organic Food. *International Journal of Business and Management*, 11(10), 109. <https://doi.org/10.5539/ijbm.v11n10p109>
- Bellenger, D. N. (1980). P. the recreational, & shopper. *Journal of retailing*, 56(3), 77-92. (1980). Profiling the recreational shopper. *Journal of Retailing*, 56(3), 77-92., 56(3), 77-.
- Branch, S. (2017). *The Effects of Social Networks on Elements of Internet Marketing Mix among Users Faezeh Saidi MORADI \* Hamid Saidi MORADI*. 11(4), 792–805.
- Bryson, D. (2021). *A timeline of the coronavirus pandemic*. <https://www.nytimes.com/article/>.
- Chami, B. (2013). *Cultural Analysis of Factors affecting customers' online shopping behavior in Finland and Morocco*. *September*, 56.
- Chauchard, E., Mariez, J., Grall-Bronnec, M., & Challet-Bouju, G. (2020). Buying-Shopping Disorder among Women: The Role of Vulnerability to Marketing, Buying Motives, Impulsivity, and Self-Esteem. *European Addiction Research*, 1–10. <https://doi.org/10.1159/000511769>

- Chen, Y.-F., & Lu, H.-F. (2015). We-commerce: Exploring factors influencing online group-buying intention in Taiwan from a conformity perspective. *Asian Journal of Social Psychology*, 18(1), 62–75.  
<https://doi.org/10.1111/ajsp.12083>
- Deal, J. J., Altman, D. G., & Rogelberg, S. G. (2010). Millennials at Work: What We Know and What We Need to Do (If Anything). *Journal of Business and Psychology*, 25(2), 191–199. <https://doi.org/10.1007/s10869-010-9177-2>
- Farhangi, A. A. (2014). Analyzing the impact of social media on consumer attitudes toward the brand and their intention to purchase. *Global Media Journal ; Persian Edition*, 9 (2), 68-.
- Gilsenan, K. (2020). *Coronavirus: the impact on buying behaviors*.  
<https://blog.globalwebindex.com/trends/coronavirus-impact-buying-behaviors/>
- Hafiz, K. A., & Ali, K. A. M. (2018). The influence of marketing stimuli on consumer purchase decision of Malaysia's cosmetic industry. *International Journal of Supply Chain Management*, 7(5), 564–571.
- Hall, A., & Towers, N. (2017). Understanding how Millennial shoppers decide what to buy: Digitally connected unseen journeys. *International Journal of Retail and Distribution Management*, 45(5), 498–517.  
<https://doi.org/10.1108/IJRDM-11-2016-0206>
- <https://insight.sirclo.com/blog/2020/08/>. (2020). *The State of indonesia's e-commerce within covid19 and rise of social e-commerce : an overview*. <https://Insight.Sirclo.Com/Blog/2020/08/Indonesias-e-Commerce-Landscape-within-Covid-19-Pandemic--Rise-of-Social-Commerce>.
- Kotler, P., Armstrong, G., & Cunningham, M. H. (2008). *Principles of marketing*. Pearson Prentice Halls.
- Kowske, B., Rasch, R., & Wiley, J. (2010). Millennials' (Lack of) Attitude Problem: An Empirical Examination of Generational Effects on Work Attitudes. *Journal of Business & Psychology*, 25, 265–279.  
<https://doi.org/10.1007/s10869-010-9171-8>
- Mallapragada, G., Chandukala, S. R., & Liu, Q. (2016). Exploring the Effects of “What” (Product) and “Where” (Website) Characteristics on Online Shopping Behavior. *Journal of Marketing*, 80(2), 21–38.  
<https://doi.org/10.1509/jm.15.0138>
- Muazam, A. R. (2020). *Transaksi e-commerce didominasi generasi Z dan milenial*. [www.Alinea.Id](http://www.Alinea.Id).  
<https://www.alinea.id/gaya-hidup/transaksi-e-commerce-didominasi-generasi-z-dan-milenial-b1ZRL9woj>.  
Transaksi e-commerce didominasi generasi Z dan milenial. Ahmad Rizki Muazam. 6 Agustus 2020%0D%0A%0D%0A
- Piarna, R., Fathurohman, F., & Purnawan, N. N. (2020). Understanding online shopping adoption: The unified theory of acceptance and the use of technology with perceived risk in millennial consumers context. *JEMA: Jurnal Ilmiah Bidang Akuntansi Dan Manajemen*, 17(1), 51. <https://doi.org/10.31106/jema.v17i1.5050>
- Richa, H., & Vadera, S. (2019). Determinants of online shopping behaviour in india. *International Journal of Recent Technology and Engineering*, 8(3), 3946–3950. <https://doi.org/10.35940/ijrte.C5303.098319>
- Seo, S., & Lang, C. (2019). Psychological antecedents to customized apparel purchases. *Journal of Fashion Marketing and Management: An International Journal*, 23(1), 66–81. <https://doi.org/10.1108/JFMM-10-2018-0128>
- Sethi, R. S., Kaur, J., & Wadera, D. (2018). Purchase Intention Survey of Millennials. *Academy of Marketing Studies Journal*, 22(1), 16.
- Shim, S., Eastlick, M. A., Lotz, S. L., & Warrington, P. (2001). An online prepurchase intentions model. *Journal of Retailing*, 77(3), 397–416. [https://doi.org/10.1016/S0022-4359\(01\)00051-3](https://doi.org/10.1016/S0022-4359(01)00051-3)
- Sirclo. (2020). *Umlah Pengguna E-Commerce Indonesia di Tahun 2020 Meningkat Pesat*.  
<https://www.Sirclo.Com/Jumlah-Pengguna-e-Commerce-Indonesia-Di-Tahun-2020-Meningkat-Pesat/.Jumlah>.
- Sonwaney, V., & Chincholkar, S. (2019). Identifying the factors impacting online consumer buying behaviour. *International Journal of Scientific and Technology Research*, 8(8), 445–456.
- StatistaB. (2020). Indonesia: top 10 e-commerce sites 2020 | Statista. In *Statista*.  
<https://www.statista.com/statistics/869700/indonesia-top-10-e-commerce-sites/>
- Tan, W.-L., & Goh, Y.-N. (2018). The role of psychological factors in influencing consumer purchase intention towards green residential building. *International Journal of Housing Markets and Analysis*, 11(5), 788–807.  
<https://doi.org/10.1108/IJHMA-11-2017-0097>
- Valkenburg, P. M., Peter, J., & Schouten, A. P. (2006). Friend Networking Sites and Their Relationship to Adolescents' Well-Being and Social Self-Esteem. *CyberPsychology & Behavior*, 9(5), 584–590.  
<https://doi.org/10.1089/cpb.2006.9.584>



- Vinita, S., Ranjan, C., & Sanjeev, V. (2019). Psychological antecedents of apparel-buying intention for young Indian online shoppers: Scale development and validation. *Journal of Modelling in Management*, 14(2), 286–311. <https://doi.org/10.1108/JM2-05-2018-0059>
- WHO. (2020). Novel Coronavirus. In *Situation Report – 205* (Vol. 205, Issue 6, pp. 1–19).
- Wu, W.-Y., Lee, C.-L., Fu, C.-S., & Wang, H.-C. (2013). How can online store layout design and atmosphere influence consumer shopping intention on a website? *International Journal of Retail & Distribution Management*, 42(1), 4–24. <https://doi.org/10.1108/IJRDM-01-2013-0035>
- Xiao, L., Guo, F., Yu, F., & Liu, S. (2019). The Effects of Online Shopping Context Cues on Consumers' Purchase Intention for Cross-Border E-Commerce Sustainability. *Sustainability*, 11(10), 2777. <https://doi.org/10.3390/su11102777>

## Biographies

**Nizam Mohammad Andrianto** is a lecturer as well as a Head of Business Incubator in Department of Management, Faculty of Economics in Universitas Pakuan Bogor. Currently, he studies marketing in Universitas Pakuan for his doctoral degree with the thesis topic of Tourist Behavior and Marketing. He took his Bachelor in IPB University, followed by receiving his Master of Management (MM) degree in PPM, Jakarta. One of his article has been published in a Scopus-indexed journal along with his colleagues.

**Kiki Oktora** is a lecturer in Department of Management, Faculty of Economic in Universitas Pakuan, Bogor, Indonesia. She obtained her bachelor and master degree both in Faculty of Economics and Business Universitas Indonesia where she took Marketing major. As an awardee of LPDP Scholarship 2019, starting from January 2021 she begins her PhD study in the University of Strathclyde, Glasgow in United Kingdom with her doctoral research proposal related to Tourism Marketing, Customer Behavior and E-Commerce. Her previous researches have been published in several journals, include SEAM (South East Asian Journal of Management).

**Abdul Talib Bon** is a professor of Production and Operations Management in the Faculty of Technology Management and Business at the Universiti Tun Hussein Onn Malaysia since 1999. He has a PhD in Computer Science, which he obtained from the Universite de La Rochelle, France in the year 2008. His doctoral thesis was on topic Process Quality Improvement on Beltline Moulding Manufacturing. He studied Business Administration in the Universiti Kebangsaan Malaysia for which he was awarded the MBA in the year 1998. He's bachelor degree and diploma in Mechanical Engineering which his obtained from the Universiti Teknologi Malaysia. He received his postgraduate certificate in Mechatronics and Robotics from Carlisle, United Kingdom in 1997. He had published more 150 International Proceedings and International Journals and 8 books. He is a member of MSORSM, IIF, IEOM, IIE, INFORMS, TAM and MIM.