

POST PANDEMIC CONSUMER BEHAVIOR: CONCEPTUAL FRAMEWORK

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ABSTRACT

Theories on consumer behavioral change emerged from the study of psychology and later used on consumer behaviors. Behaviorists believe that human behaviors can change from stimulus and responses based on the theories developed by Pavlov, Skinner, Thorndike, and many others. In this paper, the COVID-19 pandemic has forced many countries to take actions such as restricting people movement, providing economic stimulus to push the economy back up, and enforcing social distancing rules and alike to flatten the pandemic curve. The study envisioned that all the actions taken by the government, especially in the context of Malaysia, as stimulus that create positive and negative responses from the learning consumers. The study emulates the operant conditioning theory and proposes four different types of behavior categories that arises from the pandemic. The aim of this paper is to propose a conceptual framework of the market segmentation arising from COVID-19 pandemic. Methodology used by the study is based from the literature search and secondary data to come out with the suggested framework. The expected findings of the study are the four segments of the consumers based on their behavioral reactions post pandemic. The four segments are the back to square one, new normal, moderately new norm, and recycle consumer groups. Their preferences, needs, and wants can change the landscape of how market can be segmented apart from how business should react towards the changes in the future. Policy could be developed in terms of promoting the new norms behavior to overcome COVID-19 problems and future outbreaks as well as to ensure that Malaysia can be accommodative to the industrial revolution 4.0. Future research should be conducted to replicate the framework in different contexts and industries.

Keywords: Operant conditioning, COVID-19, new normal, old norms, adverse reactions, in-adverse reactions, stimulus, responses

INTRODUCTION

Corona Virus Disease 2019 or COVID-19 is a pandemic that has killed hundreds of thousands and sickened millions of people in a global scale in which not a single country is being spared. COVID-19 caused by the Severe Acute Respiratory Syndrome (SARS-CoV-2) was declared as a pandemic by World Health Organization (WHO) on 11th March 2020 (Van Bavel et al., 2020). This virus outbreak, which began in Wuhan, China in early December 2019 (Md Shah et al., 2020), has expanded and has spread very quickly globally. Hundreds of thousands of people around the world have been sickened and thousands of others have died from this virus. As end of May 2020 more than 3.5 million cases with almost 250,000 deaths have been reported to the WHO.

The first case of COVID-19 in Malaysia was announced on 25th January 2020 and by 16th February 2020, the number of cases then rose to 22, representing a first wave of cases. A second wave of COVID-19 cases began on 27th February 2020 and since then the number of people affected in the country has risen to more than 1,000. As of end June 2020, 8,639 cases with 121 deaths have been reported.

As the virus speeding up, it forced many countries to either perform a lockdown or restrict movement of the people to mitigate the spread. In Malaysia, the government has executed a few series of Movement Control Order (MCO) in dealing with the COVID-19. First phase of MCO started from 18th March 2020 for 14 days and has been extended to 31 August 2020. Since then, Malaysia went through 5 phases of MCO, with all the strict actions recommended by the WHO to effectively contain the COVID-19 outbreak. Such actions taken were prohibitions of mass movements and gatherings across the country, sanctions of international travelling, and closures of non-essential government and private businesses. Although the MCO has successfully reduced the number of new cases per day, the MCO has affected Malaysian economics significantly. Many businesses (especially micro, small, and medium enterprises) were struggling to survive, and many people left jobless.

The government announced fiscal stimulus package of MYR260 billion, or almost 18 percent from the gross domestic product (GDP) to ease the economics' impacts amid the COVID-19 and the MCO in order to support struggling businesses and people. People and small medium enterprises (SMEs) were relieved with the one-off cash assistant, 6 months bank moratorium, Employee Provident Fund (EPF) withdrawals, soft loan financing to SMEs, employee's salary subsidies, and many more government incentives. Despites various incentives, authorities imposed strict rules to those who disobeyed or violated the MCO. People who violated the rules would be fined not more than MYR1,000 or sentenced to jail for not more than 6 months or both. A total of 9,090 arrests have been made for MCO violations from 18th March to 13th April alone.

The spread of COVID-19 and the MCO has had a profound impact on consumer habits and the Malaysian economy. The rise in digital usage such as online learning, online shopping, and online payments has suddenly become a new normal for the nation. The pandemic and the implementation of MCO could lead to behavioral change of the consumers and the ways businesses operate in the future and corporate strategies need to be changed accordingly (Kodama, 2020).

The aim of this paper is to come out with a new conceptual framework to the existing theory of consumer behavioral changes. This is seen as a consequence from the restriction movement order and other stimulus taken by the government in flattening the COVID-19 curve. There will be in-adverse and adverse reactions from the consumers that might create a new norm or going back to the old norms. The reactions of the consumers will be the contribution to the operant conditioning theory in which this paper will subdivide into four types of market segments post pandemic. The ways that businesses transactions will take place between firms and consumers might be changing including businesses internal operation.

This paper will be a breakthrough on how the post pandemic consumer behavioral change will take place and inevitably change how businesses will run and the changes in the market segments. The paper is organized in such the discussion on the impacts of COVID-19 pandemic has lured the government to take actions that become the stimulus to change the people behavior. Then the discussion on the consumers' reactions (adverse and in-adverse) will be discussed. In a later section, the emergence of the new norms and old norms will be suggested. Finally, the paper ends with discussions and future studies recommendations.

LITERATURE REVIEW

Behavioral Responses and Pandemic

Before the COVID-19, human has had to deal with various epidemics and pandemics across the centuries such as Black Death, Spanish flu, H1N1 swine flu, Bubonic plague, SARS, MERS, Polio, and Ebola. Many of them have sickened and claimed millions of lives. The Spanish flu influenza pandemic for instance killed over 20 million people in 1918 and 1919 (Reid et al., 1999) and the Bubonic plague claimed 25 percent of Europeans lives (Scott et al., 2001).

Epidemics and pandemics propagate fear and erratic behavior (Lau et al., 2007; Leung et al., 2005; Seto et al., 2003; Wong & Sam, 2011). Wu et al. (2009) for instance, found that the memories about SARS virus still provoking fear among the society even after a few years especially among those infected. The feel of fear and threat about the disease does not only change how people think about themselves, but also how they feel and react to others (Poletti, Ajelli, & Merler, 2011). Individual and collective behaviour is particularly important during the epidemics and pandemics. In the absence of appropriate pharmacological interventions, the main method of controlling outbreaks is to change public behaviour (Chen et al., 2017). Emotion and risk perception also lead to behavioral change particularly during outbreaks. Humans are most likely to change their contact patterns when mortality or the perception of risk is high and resume normal life as the perceived risk declines (Ferguson, 2007; Hatchett, Mecher, & Lipsitch, 2007). Human behaviour can affect their family, social networks, organizations in which they participate, communities to which they belong, information they obtain, and the impact on their society.

In a study conducted by Sheth (2020), consumer habits and behaviour although habitual, they are contextual as well. The ad hoc natural disasters such as earthquakes, hurricanes, regional conflicts, civil wars, and pandemic like COVID-19 disrupt or change consumer habits and behaviour. Although it is expected that habits or behaviour will return to normal, it is inevitable that some habits will stop and vanish because the customers have discovered an alternative that is more convenient, affordable, and accessible during the natural disasters took place (Sheth, 2020). For example, digital adoption such as online learning and online shopping. Sheth (2020) added that people might modified and generate new habits due to ad hoc natural disasters. Modified habits are when the existing habits are modified by the new guidelines and regulations such as wearing face masks and keeping the social distance. When there are new policies imposed by the government or authorities, technology, and changing demographics, new habits are generated.

The recent COVID-19 outbreak has triggered panic across the globe. Similar to the previous deadliest epidemics and pandemics, the extent of COVID-19 spread has also changed the behaviour of individuals. Therefore, it is important to have an understanding on human behaviour post pandemic in order to help planning for the possible future outbreaks.

Operant Conditioning – Reinforcement and Punishment

Human behavior is indeed complex and sometimes is unpredictable. Many studies have been done trying to understand and find more about human behavior. The study of human behavior requires a detailed and thorough research on people in different places and environments. Among the renowned researcher and psychologist who spent his life studying human behavior is Burrhus Frederick Skinner. Skinner developed various theories in understanding human behavior, and one of his theories is operant conditioning introduced in 1930 (Catania, 2003). Operant conditioning theory suggests that behavior is determined by its consequences (be they reinforcements or punishments), which make it more or less likely that the behavior will occur again. Skinner coined the term operant conditioning as the changing of behavior using reinforcement which is given after the desired response. In other words, the stimulus (either positive or negative) occurs after the response. Skinner found three types of responses or operant that can follow behavior.

Firstly, neutral operant is responses from the environment that neither increase nor decrease the probability of a behavior being repeated. Secondly, reinforcement is a response or consequence that causes a behavior to occur with greater frequency. Reinforcements can be positive or negative. Positive reinforcer is a favorable event or outcome that is presented after an individual act in a certain behavior and it strengthens the behavior by providing a consequence that the individual finds rewarding. For example, a consumer can enter premises (reward) every time he/she wears a face mask (behavior). Negative reinforcer on the other hand involves the removal of an unfavorable event or outcome after the display of a behavior. A response is strengthened by the removal of something considered unpleasant. For example, a consumer is asked to buy a MYR1.50 face mask (unfavorable outcome) at an instant every time they do not wear one to enter premises. On the days they wear face mask they do not have to buy MYR1.50 face mask (removal of unwanted outcome). He/she will always wear face mask to save MYR1.50, thus strengthening the behavior of entering premises.

Thirdly, punishment is a response or consequence that causes a behavior to occur with less frequency. Similar like reinforcements there can be two types of punishment: positive and negative. Positive punishment is an unfavorable response or consequence following a behavior which leads to a decrease in that behavior. For example, every time a consumer does not wear a face mask (behavior), he/she is barred from entering premises (consequence). This consequence of being barred will demotivate he/she from not wearing the face mask, thereby weakening the behavior. Whereas negative punishment, also known as punishment by removal, occurs when a favorable event or outcome is removed after a behavior occurs. For example, every time a consumer fails to wear a face mask (behavior) before entering premises, he/she is fined MYR10 and need to buy MYR1.50 face mask at an instant (consequence) that day. This penalty of MYR10 and buying MYR1.50 face mask following an undesired behavior, results in a decrease in that behavior. **Figure 1** shows the operant conditioning approach as laid out by Skinner.

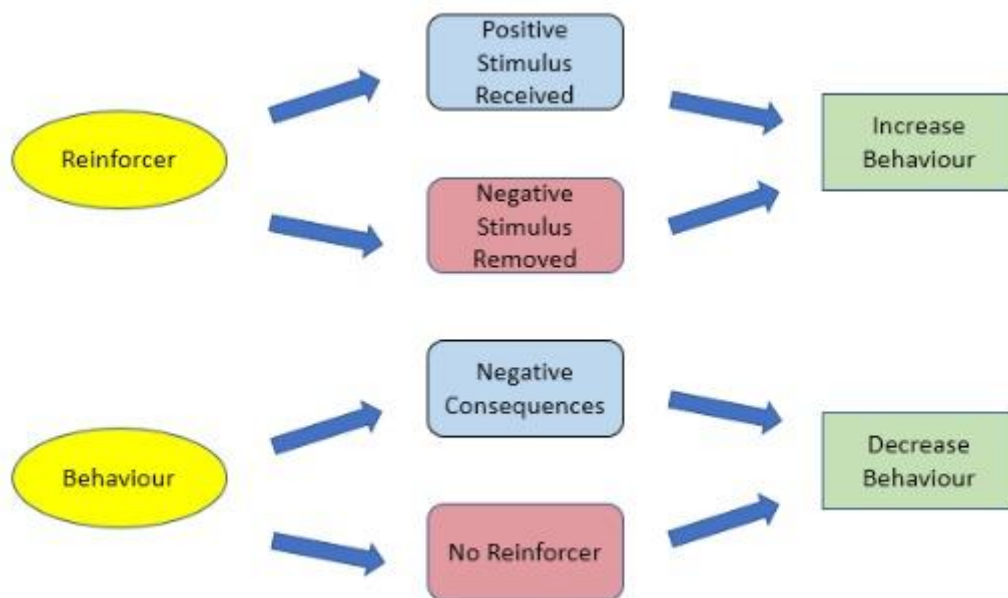


Figure 1: Operant conditioning approach by Skinner

Social Norms and Consumer Behavior

People's behavior is influenced by social norms, which is what they perceive that others are doing or what they think that others approve or disapprove of (Cialdini & Goldstein, 2004; Burchell, Rettie & Patel, 2013). Social norms, or simply norms, can be viewed as customary

standards for behavior, attitudes, and beliefs that are shared by members of a group. Social norms define boundaries for what is considered appropriate and expected in a situation and within a group. It gives individual a better sense of how to behave and think in new or ambiguous situations and allow individual to predict others' behavior better (Cialdini & Goldstein, 2004; Kallgren, Reno & Cialdini, 2000).

Social norms, therefore, govern almost every facet of life and are influential because they inform consumers of how they are expected to behave. Social norms apply within a reference group, that is, different groups of people have different rules (White et al., 2009; Adnan, 2009). Each group creates its own set of standards for acceptable and desirable behaviors and attitudes. For instance, Christians, Jews and Muslims all have different moral standards and practices. Cialdini (2007, 2012) suggests two types of norms, namely descriptive norms and injunctive norms. The former refers to behavior that is common or widespread, while the latter refers to behavior that is approved or disapproved of within a social group. Additionally, these two different types of norms motivate people in different ways. Descriptive norms provide a decision-making short-cut. For example, one assumes that if other people are behaving in a particular way, it is likely to make sense for he/she to do so as well.

In other words, there is a strong tendency simply to behave as others are behaving in a given context, since he/she assumes it will be beneficial. Injunctive norms, in contrast, constitute the moral rules of a group, and motivate by promising to provide or withhold social acceptance or approval. For example, one should not swear in front of children as it is deemed inappropriate and one should not play loud music on public transport because it is frowned upon by society. In addition, proscriptive injunctive norms, as in these examples, identify what people should not do, while prescriptive injunctive norms identify what people should do. Cialdini (2007, 2012) points out that people are motivated or influenced by both types of norms primarily when the norms are brought into focus and their attention is directed to them.

Sudden changes in situations, like the current emergency with COVID-19, can bring unexpected changes to injunctive norms, such that previously positive behavior like religious gathering, hand shaking, and socializing can overnight become negative behavior. An ongoing University of Southern California study published its first round of results in March 2020, reported that the COVID-19 had already created significant shifts in people's behavior. Among the top findings were 85 percent of people reported washing their hands or using sanitizer more often than before, and 61 percent reported following social distancing guidelines. Among the findings, 85 percent of people reported to be washing their hands or using sanitizer more often than before, 61 percent reported following social distancing guidelines, and 22 percent reported to do stockpiling of essentials like food or water.

Meanwhile in Malaysia, the MCO has helped the country to manage new transmission of COVID-19 by stopping many social and cultural gatherings. Malaysia is a multicultural country, predominantly defined by three major ethnic groups, Malay, Chinese, and Indians, with diverse cultural backgrounds. Religious and cultural activities such as daily congregational prayers, weekly prayers, sermons, weddings, funerals, festivals, and various other social-religious events are embedded into the culture of Malaysians.

In a pandemic situation like COVID-19, these communal gatherings become the biggest challenge. It will have significant impact on various religious and cultural norms of Malaysians; thus it requires them to adjust to a new normal, at least until an effective vaccine or cure is found.

Digital Transformation Post Pandemic

COVID-19 has accelerated digital transformation for both customers and businesses. Pre-pandemic transformations were mostly driven by customer-centric needs and a desire for more efficient and flexible processes, but the post-pandemic digital transformation journeys are different. Workforce for health and safety, increased communication and collaboration, social

distancing, and a higher degree of adaptability are all now deciding factors for digital transformations. Prior to COVID-19, some were reluctant to adopt digital technology, as they preferred to conduct daily transaction offline. However, during COVID-19 people and businesses in general had accepted digital technology as being a good measure to conduct daily transactions.

A study carried out by Grashuis et al. (2020) to US consumers found that the COVID-19 pandemic created major variations in shopping habits for groceries. Consumers are less willing to shop inside the grocery store in circumstances where COVID-19 is spreading at an increasing rate. As COVID-19 spreads at a decreasing rate, the relative value of the attribute of the purchase system is lower in its totality.

It was reported that Amazon needs to hire more warehouses and workers to speed up the increased deliveries of orders during the coronavirus pandemic (Hamilton, 2020). Lazada also experienced a spike in bulk buying and large orders through its grocery service (Abdullah, 2020). These situations indicate that many more households have moved to online shopping during the pandemic. The trend is predicted to be the same even after pandemic since people are still not feeling safe from the virus until the vaccine is found and approved.

Shaw et al. (2020) emphasized that the pandemic has created socio-psychological impact and shifts in lifestyle, which introduced new work culture in most of the entire world. Telework is becoming popular as online meetings, online conference, online workshop and webinar become common platforms in communicating with other people at work. Education has also joined the bandwagon where universities conduct online classes and school children experience online school using digital platform. Nevertheless, this new work culture may be a huge challenge to those who have poor internet connection.

It is argued that psychographics or attitudinal studies are important during crisis like COVID-19 pandemic for these studies explore people's value, goals, interests as well as choices of lifestyles. The research outcome may give a complete picture for the marketers to better profile their customers according to their backgrounds (Lundberg, 2020).

METHODOLOGY

This is a conceptual paper that relates to the behavioral changes of the consumers amid the COVID-19 pandemic. Therefore, the study will use the relevant literature on the behavioral changes but since COVID-19 is a new pandemic, scarcity of theory related to pandemic is expected. Nevertheless, the conceptual framework developed in this study in which was carefully given consideration by the authors will be tested in the future to ensure that it can become a theory.

The Proposed Consumer Behavior Categories

Based on the literatures, epidemics and pandemics significantly changed consumer behavior. According to Sheth (2020) existing consumer behavior may be maintained, modified, or generated to new behavior post pandemic. There are also other stimuluses that might help change consumer behavior. For instance, in Malaysia, the COVID-19 pandemic has required the Malaysian government to impose MCO and to provide many incentives to overcome the spreading of the virus. Social distancing, new standard operating procedures, and rules imposed on people who disobey the MCO and punishment if found guilty of MYR1,000 compound or six months jail deter people from having social gathering or activities that change consumer behaviors. Due to MCO, digital adaptation among Malaysians has sped up and changed the online landscape. Online shopping, online education, online meetings, and online banking are examples of the new activities in consequences of the pandemic.

As such, we proposed a post pandemic conceptual framework in explaining consumer behavior post pandemic. The framework consists of four quadrants of consumer behavior,

which is back to square 1 (or old normal), new normal, moderate new normal, and recycle. The proposed conceptual framework is presented in **Figure 2**.

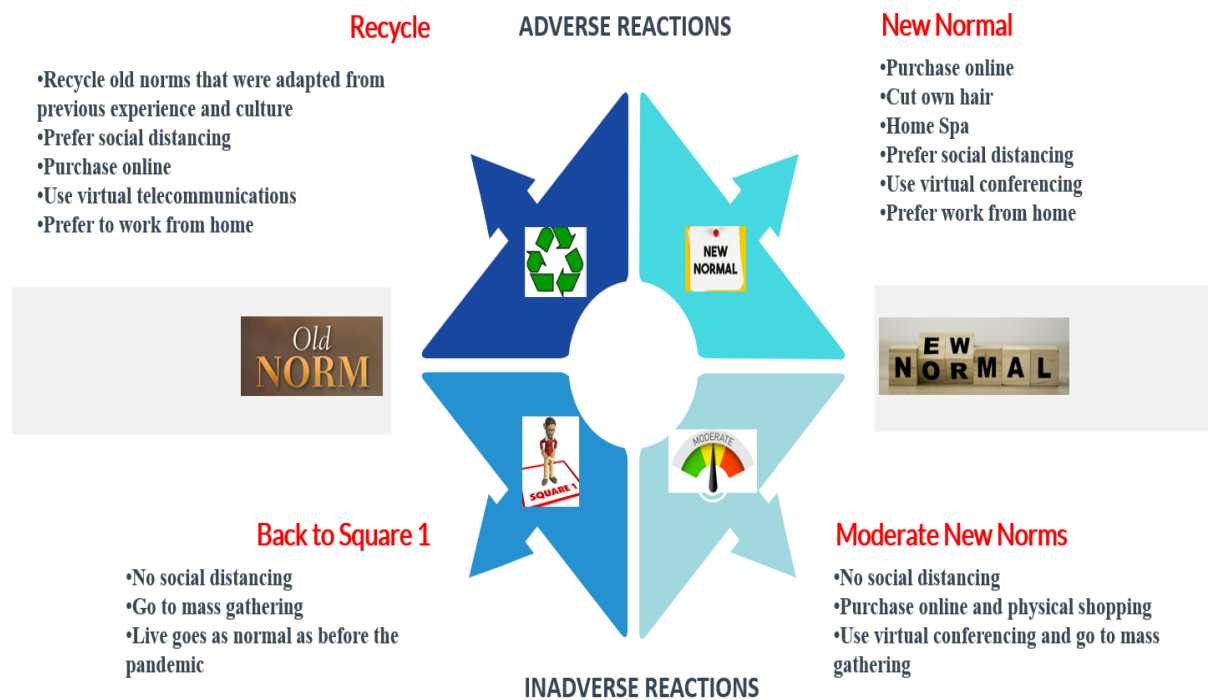


Figure 2: Post pandemic consumer behavior conceptual framework

We proposed that behavioral reactions post pandemic can be categorized into adverse reaction and in-adverse reaction. Adverse reaction is denoted by changes in behavior while in-adverse reaction is represented by no changes in behavior. Beliefs and needs are the strongest factors that govern human behavior. Past studies showed that individual experiences result in the formation of beliefs that strongly affect the behavior. Adverse reactions produce two categories of behavior which are recycle and new normal.

Recycle Category

People in this category are characterized as those who are already comfortable with their behaviour prior to COVID-19. These people prefer to purchase online, use virtual communications, prefer to work from home, and prefer social distancing. They dislike social gathering and prefer staying at home. They like browsing the Internet and do almost everything online because they feel secure and comfortable. This means that COVID-19 does not have a significant impact that changes their behaviour. Due to their less sociable lives, Al-Hawari (2014) stressed that these people are normally introverts who value online services highly. His study found that introverts are more loyal and satisfied to online banking facility than the extroverts since they prefer to do their business without having to face the banking officers.

New Normal Category

Evidence suggests that in the presence of a deadly disease and lack of pharmaceutical interventions, people will change their behaviour to avoid infection (Del Valle et al., 2005; Pang et al., 2003). Thus, people have to adjust to a new normal, meaning a new way of living. Many studies have reported and discussed how COVID-19 altered people's behaviour (see for instance Donthu, & Gustafsson, 2020; Kirk, & Rifkin, 2020; Sheth, 2020). Therefore, we are proposing a new normal category of consumer that has emerged post pandemic. People under this category

are the most concerned about the impact of the pandemic on them. They quickly adjust to the current situation by adapting new norms due to the fear they develop for the pandemic. New normal people embracing technology more than ever, for instance they now prefer to work from home and use online platforms to communicate. In a socially distanced post pandemic world, technology is likely to continue to play an increasing role in the way that we consume (Barnes, 2020).

In-adverse reactions on the other hand generate another two categories of behavior post pandemic namely back to square 1 and moderate new norm.

Back to Square 1 Category

According to Sheth (2020), the consumers will go back to their old habit unless the pandemic brings significant changes to their lives. In a study conducted by Wu et al. (2013) on influenza vaccination before and after the 2009 influenza pandemic in Beijing, China found that there were people who rejected vaccination and continued to live their lives as before the pandemic. The main reason was that these people claimed that they were unlikely to contract influenza. Since influenza did not give them significant changes, they continued to go back to their old habits as conformed by Sheth (2020). Therefore, we posit that those in back to square 1 category remain indifferent to the pandemic and continue to behave as usual since they do not feel directly affected by the pandemic. They do not find the pandemic as a serious threat to themselves and to the society at large. Thus, they refuse to adapt to the new norms.

Moderate New Norm Category

People who fall under this category are normally sociable, outgoing and open-minded. They always love to gather with other people but under some circumstances they also do not have any problem meeting them via online meeting platforms. During pandemic crisis, besides being a tech-savvy by buying online, they also like to stick to their old habits such as going shopping and eating out at the restaurants. However, this time around they are willingly taking extra safety precautions by abiding the government rules and SOP. The moderate new norm people obey all the rules religiously and still enjoy going out shopping or dining, the way they used to do. Religious groups are reported to refrain from large-scale gatherings hence conducting their rituals by themselves (Shaw et al., 2020). For instance, during the RMCO, Muslims were not able to perform Friday prayers together at the mosque hence they did their prayers alone at their own homes.

CONCLUSION

The implementation of MCO by the Malaysian government has received positive reactions from the people. The COVID-19 as in July 2020 is flattened as compared to countries such as USA, Brazil and many other countries. Malaysia has even named as one of the 5 developing countries that has managed the pandemic successfully. The success stems from the arduous work of the front liners, the government systematic plans, implementation, and enforcement of the MCO, economic packages, and the dedicated support from the people. The study believes that the behavioral changes of the Malaysian consumers because of the Malaysian attitudes, belief and trust on the government plan to flatten the pandemic.

The operant conditioning theory is relevant in the modern society as witnessed in overcoming the COVID-19 virus especially in the context of Malaysia. The theory might not be working well in the USA, Brazil, Italy, and other countries because of lack of cooperation of their people. Nevertheless, the increasing trend of the Internet usage by Malaysians before the pandemic might have contributed a lot in the acceptance and behavioral changes of Malaysian consumers. However, this reason is not true for developed countries such as USA, UK, and many European countries. Therefore, the strategies used in Malaysia might not be working in other countries.

As the MCO and stimulus taken by the Malaysian government are changing the Malaysian consumer behaviors, this study proposed that the post pandemic will have 4 major categories consisting of recycle, new normal, back to square 1 and moderate new norm categories. These categories of different consumers will have different implications for marketing and how the traditional business will run. Many businesses might be changing from traditional mortar and brick towards digital businesses.

Therefore, it is important to identify and understand the four different segments in order to apply the appropriate marketing channels, promotion, and advertising strategies for the respective different segments. Inability to understand the different segments will lead to unfavorable outcomes in terms of cost and profit margin.

After identifying, the four consumer segments, companies can either focus on a specific consumer segment or employ mixed marketing strategies to include more than one customer segments. Segmenting customers according to their backgrounds may enhance customer satisfaction. This is evidenced by a study done by Naim et al. (2019) which shows that customer lifestyle has strong influence towards customer satisfaction. For instance, upon profiling their clients' backgrounds such as attitude and preferences, the banking sector may upgrade their online services more effectively for the recycle and new norms categories to increase their satisfaction.

The new segments can impact the economy if the public transform their behavior to adopt the new norm or embracing digital or online transformation. The economy can recover faster as technology can accelerate the economic growth (Refer to Solow Swan economic growth model). For example, the latest policy on E-Penjana announced by the government providing one to one matching grants for RM600 million in attracting foreign investors to invest in start-up technology companies, provides evidence that the government is forward looking in the changes of the new norms amid the COVID-19 pandemic.

The transformation of traditional businesses will be inevitable as the 4th Industrial Revolution is taking place soon. This study contributes to the existing knowledge by providing the outcomes of the operant conditioning taken place in flattening the COVID-19 pandemic in which created 4 possible major categories that are recycle, new norm, moderately new norm and back to square 1. These four types of categories can be used as the new market segments as compared to demographic, psychographic or lifestyles in marketing studies especially in understanding their specific behaviors, needs and wants.

This is an initial behavioral study of post pandemic which contributes to the knowledge of behavior change. The future research will consider conducting focus-group interviews and survey to test the proposed theoretical framework.

REFERENCES

- Abdullah, Z. (2020, February 19). Delivery services see spike in business because of COVID-19. *Channel News Asia*. <https://www.channelnewsasia.com/news/singapore/delivery-services-see-spike-in-business-coronavirus-covid-19-12443628>
- Adnan, A. A. (2009). Pandangan pakar terhadap penentu ekstrinsik dalam pemilihan bank menurut tuntutan syarak. *The Journal of Muamalat and Islamic Finance Research*, 6(1). 147-176.
- Al-Hawari, M. A. A. (2014). Does customer sociability matter? Differences in e-quality, e-satisfaction, and e-loyalty between introvert and extravert online banking users. *Journal of Services Marketing*, 28(7), 538-546. <https://doi.org/10.1108/JSM-02-2013-0036>
- Barnes, S. J. (2020). Information management research and practice in the post-COVID-19 world. *International Journal of Information Management*, (June), 102175. <https://doi.org/10.1016/j.ijinfomgt.2020.102175>

- Burchell, K., Rettie, R., & Patel, K. (2013). Marketing social norms: Social marketing and the 'social norm approach. *Journal of Consumer Behaviour*, 12(1), 1-9. <https://doi.org/10.1002/cb.1395>
- Catania, A. C. (2003). BF Skinner's science and human behavior: Its antecedents and its consequences. *Journal of the Experimental Analysis of Behavior*, 80(3), 313-320. <https://doi.org/10.1901/jeab.2003.80-313>
- Chen, J., Lewis, B., Marathe, A., Marathe, M., Swarup, S., & Vullikanti, A. K. (2017). Individual and collective behaviour in public health epidemiology. In *Handbook of statistics* (Vol. 36, pp. 329-365). Elsevier.
- Cialdini, R. B. (2007). Descriptive social norms as underappreciated sources of social control. *Psychometrika*, 72(2), 263-268. <https://doi.org/10.1007/s11336-006-1560-6>
- Cialdini, R. B. (2012). The focus theory of normative conduct. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology*. (pp. 295-312). Sage Publications Ltd.
- Cialdini, R. B., & Goldstein, N. J. (2004). Social influence: Compliance and conformity. *Annual Review of Psychology*, 55, 591-621. <https://doi.org/10.1146/annurev.psych.55.090902.142015>
- Del Valle, S., Hethcote, H., Hyman, J. M., & Castillo-Chavez, C. (2005). Effects of behavioral changes in a smallpox attack model. *Mathematical biosciences*, 195(2), 228-251. <https://doi.org/10.1016/j.mbs.2005.03.006>
- Donthu, N., & Gustafsson, A. (2020). Effects of COVID-19 on business and research. *Journal of Business Research*, 117, 284. <https://doi.org/10.1016/j.mbs.2005.03.006>
- Ferguson, N. (2007). Capturing human behavior. *Nature*, 446(7137), 733-733. <https://doi.org/10.1038/446733a>
- Grashuis, J., Skevas, T., & Segovia, M. S. (2020). Grocery shopping preferences during the COVID-19 pandemic. *Sustainability*, 12(13), 5369. <https://doi.org/10.3390/su12135369>
- Hamilton, I. A. (2020, April 15). Jeff Bezos is wealthier by \$24 billion in 2020, as Amazon reports at least 74 COVID-19 US warehouse cases and its first death. *Business Insider*. <https://www.businessinsider.my/jeff-bezos-net-worth-jumps-23-billion-during-coronavirus-crisis-2020-4?r=US&IR=T>
- Hatchett, R. J., Mecher, C. E., & Lipsitch, M. (2007). Public health interventions and epidemic intensity during the 1918 influenza pandemic. *Proceedings of the National Academy of Sciences*, 104(18), 7582-7587. <https://doi.org/10.1073/pnas.0610941104>
- Kallgren, C. A., Reno, R. R., & Cialdini, R. B. (2000). A focus theory of normative conduct: When norms do and do not affect behavior. *Personality and Social Psychology Bulletin*, 26, 1002-1012. <https://doi.org/10.1177/01461672002610009>
- Kirk, C. P., & Rifkin, L. S. (2020). I'll trade you diamonds for toilet paper: Consumer reacting, coping and adapting behaviors in the COVID-19 pandemic. *Journal of Business Research*, 117, 124-131. <https://doi.org/10.1016/j.jbusres.2020.05.028>
- Kodama, M. (2020). Digitally transforming work styles in an era of infectious disease. *International Journal of Information Management*, (June), 102172. <https://doi.org/10.1016/j.ijinfomgt.2020.102172>
- Lau, J. T., Kim, J. H., Tsui, H., & Griffiths, S. (2007). Perceptions related to human avian influenza and their associations with anticipated psychological and behavioral responses at the onset of outbreak in the Hong Kong Chinese general population. *American Journal of Infection Control*, 35, 38-49. <https://doi.org/10.1016/j.ajic.2006.07.010>
- Leung, G. M., Ho, L. M., Chan, S. K., Ho, S. Y., Bacon-Shone, J., Choy, R. Y., Hedley, A. J., Lam, T. H., & Fielding, R. (2005). Longitudinal assessment of community psychobehavioral responses during and after the 2003 outbreak of severe acute respiratory syndrome in Hong Kong. *Clinical Infectious Diseases*, 40(12), 1713-1720. <https://doi.org/10.1086/429923>
- Lundberg, S. (2020, June 23). *Why psychographic data is crucial in times of crisis*. Globalwebindex. <https://blog.globalwebindex.com/marketing/psychographic-data-crucial-in-crisis/>

- Md Shah, A. U., Safri, S. N. A., Thevadas, R., Noordin, N. K., Abd Rahman, A., Sekawi, Z., & Sultan, M. T. H. (2020). COVID-19 outbreak in Malaysia: Actions taken by the Malaysian government. *International Journal of Infectious Diseases*, 97(August 2020), 108-116. <https://doi.org/10.1016/j.ijid.2020.05.093>
- Naim, A. M., Hamid, M. L. A., & Wahab, M. Z. H. (2019). The roles of lifestyle, future need and customer preferences in customer's satisfaction on Islamic banks products and services. *The Journal of Muamalat and Islamic Finance Research*, 16(2), 60-76. <https://doi.org/10.33102/jmifr.v16i2.223>
- Pang, X., Zhu, Z., Xu, F., Guo, J., Gong, X., Liu, D., & Feikin, D. R. (2003). Evaluation of control measures implemented in the severe acute respiratory syndrome outbreak in Beijing, 2003. *Jama*, 290(24), 3215-3221. <https://doi:10.1001/jama.290.24.3215>
- Poletti, P., Ajelli, M., & Merler, S. (2011). The effect of risk perception on the 2009 H1N1 pandemic influenza dynamics. *PloS one*, 6(2), e16460. <https://doi.org/10.1371/journal.pone.0016460>
- Reid, A. H., Fanning, T. G., Hultin, J. V., & Taubenberger, J. K. (1999). Origin and evolution of the 1918 "Spanish" influenza virus hemagglutinin gene. *Proceedings of the National Academy of Sciences*, 96(4), 1651-1656. <https://doi.org/10.1073/pnas.96.4.1651>
- Scott, S., & Duncan, C. J. (2001). *Biology of plagues: Evidence from historical populations*. Cambridge University Press.
- Shaw, R., Kim, Y. K., & Hua, J. (2020). Governance, technology and citizen behavior in pandemic: Lessons from COVID-19 in East Asia. *Progress in Disaster Science*, 6, 100090. <https://doi.org/10.1016/j.pdisas.2020.100090>
- Seto, W. H., Tsang, D., Yung, R. W. H., Ching, T. Y., Ng, T. K., Ho, M., Ho, L. M., Peiris, J. S. M., & Advisors of Expert SARS group of Hospital Authority. (2003). Effectiveness of precautions against droplets and contact in prevention of nosocomial transmission of severe acute respiratory syndrome (SARS). *The Lancet*, 361(9368), 1519-1520. [https://doi.org/10.1016/S0140-6736\(03\)13168-6](https://doi.org/10.1016/S0140-6736(03)13168-6)
- Sheth, J. (2020). Impact of COVID-19 on consumer behaviour: Will the old habits return or die? *Journal of Business Research*, 117, 280-283. <https://doi.org/10.1016/j.jbusres.2020.05.059>
- Van Bavel, J. J., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., & Drury, J. (2020). Using social and behavioural science to support COVID-19 pandemic response. *Nature Human Behaviour*, 1-12. <https://doi.org/10.1038/s41562-020-0884-z>
- White, K. M., Smith, J. R., Terry, D. J., Greenslade, J. H., & McKimmie, B. M. (2009). Social influence in the theory of planned behavior: The role of descriptive, injunctive, and in-group norms. *British Journal of Social Psychology*, 48(1), 135-158. <https://doi.org/10.1348/014466608X295207>
- Wong, L. P., & Sam, I. C. (2011). Behavioral responses to the influenza A (H1N1) outbreak in Malaysia. *Journal of Behavioral Medicine*, 34(1), 23-31. <https://doi.org/10.1007/s10865-010-9283-7>
- Wu, P., Fang, Y., Guan, Z., Fan, B., Kong, J., Yao, Z., & Hoven, C. W. (2009). The psychological impact of the SARS epidemic on hospital employees in China: Exposure, risk perception, and altruistic acceptance of risk. *The Canadian Journal of Psychiatry*, 54(5), 302-311. <https://doi.org/10.1177/070674370905400504>
- Wu, S., Yang, P., Li, H., Ma, C., Zhang, Y., & Wang, Q. (2013). Influenza vaccination coverage rates among adults before and after the 2009 influenza pandemic and the reasons for non-vaccination in Beijing, China: A cross-sectional study. *BMC public health*, 13(1), 636. <https://doi.org/10.1186/1471-2458-13-636>

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