

Effect of Covid-19 Pandemic towards Behavioral Strategies among Community in Perhentian Island

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Abstract

Purpose

The study aimed to identify the effect of covid-19 pandemic shock towards behavioral strategies among communities in island. The independent variables of this study are risk management, economic, health, environmental and political shock. The dependent variable is behavioural strategy.

Design/methodology/approach

This study has been conducted on 297 respondents at Perhentian Island using the simple random sampling which is part of probability sampling technic. However, only 157 respondents managed to be collected due to the weather constraint and transmission of covid-19 outbreak. The data were collected through the interview face to face or respondents answered the questionnaires by themselves while being monitored by the enumerators. After data collection, it was analyzed using SPSS software. The data screening prior to does the inferential analysis. One of the inferential analysis carried out in this study was the repeated measured ANOVA to compare the mean of expenditure before, during and after MCO. Besides, the simple and multiple linear regression were also employed.

Findings

The result indicates there is significant different between mean expenditure of food, debt and liability, saving, entertainment (hobby and sport), petrol/diesel and contribution to parents before and during MCO as well as during and after MCO, respectively. Besides, the regression analysis has been conducted on two models. From Model 1, the findings show the shock due to the pandemic is significant and positively affecting the behavioural strategy. Meanwhile in Model 2, the economic shock, health shock, environmental shock, and risk management are significant and positively affect the behavioural strategy except political shock. The economic shock is dominant factor affecting the behavioural strategy to overcome problem regarding expenditure and spiritual practice, followed by health shock, risk management and environmental shock.

Originality

The current study contributes to the knowledge gap by including the community of Perhentian Island, Malaysia as the sample of study. Moreover, the findings of this study could

also be applied as guidelines for future research. Therefore, from the findings, a few suggestions are identified which are the community should reduce all types of their spending just not only to overcome problem regarding expenditure during pandemic but it is to ensure the standard operation procedure (SOP) to be complied.

Keywords: Behavioural strategy, pandemic shock, tourism, COVID-19 pandemic

Introduction

Covid-19 or novel coronavirus pandemic outbreak among the worldwide big issues in the beginning year 2020, had impacted over than 10,000 deaths in many countries. The infection and fatality rates of COVID-19 ever reached approximately 1.5 to 3.5 per infected person and 1 to 3.4 of deaths per cases in 2020 (Ministry of Health Malaysia, 2020). A lot of strategies had been conducted to overcome this pandemic including vaccination. However, due to ensure the effectiveness of the vaccine, the Government had to spend more time for the vaccination. Consequently, Malaysia had to implement a movement control order (MCO) to control the Covid-19 transmission. The MCO had led to the economic downturn of Malaysia including increment of unemployment rate. According to the Department of Statistic Malaysia (2020) the unemployment rate increases drastically from Mac to September 2020 along the pandemic opposed to 3.3% in February 2020. The unemployment rate highest increase of 5.3% due to MCO. Most of sectors in Malaysia were affected by the Covid-19 pandemic including tourism sector. According to Abdul Razak (2020), most of tourism activities in Malaysia had been revoked due to the cancellation of Visit Malaysia Year 2020 Campaign. It brought to the negative implications because of declining of the number of tourists after closing down of numerous hotels, cross border travel restrictions and the inter-state travel ban (Foo, et al, 2020; Chan & King, 2020).

According to Department of Statistics Malaysia (2020), the international tourism expenditure contributes more than 50.0 per cent to national tourism sector. It indicated the big role of international tourism towards Malaysia economic. Unfortunately, the percentage dropped when 170,084 hotel room bookings have been cancelled within 2 months with a loss of revenue approximately to RM68,190,364 during to the pandemic (Malaysian Association of Hotels, 2020).

As specified by Gössling et al (2020), travel restrictions and lockdowns have triggered a significant slowdown in world tourism, with a more than half decrease in international flights.

Furthermore, the employees from different hotels had to be minimized and as well as resorts were also asked for unpaid leave. It exacerbated the situation as the income source of community who are among the employees concerned. It is because most of them depended on the tourism activities especially the community in islands in Terengganu even though there is no new case of Covid-19 reported in Perhentian Island (Ministry of Health Malaysia, 2020). Additionally, it also gives the big impact to low income communities especially B40 who have been losing their job and asked for unpaid leave. This situation had also affected their expenditures. According to Rashid et al. (2018), the different expenditure patterns reflected how people are surviving in the current economic climate. As the results, they had to make a big change in their lives in adapting the new norms especially the change of their strategies, practices and behaviours. Therefore, it is important to understand to what extent the covid-19 pandemic affected their strategies, practices and behaviours. Hence, this study to identify the effect of shocks due to the Covid-19 pandemic towards behavioral strategies among community in Perhentian Island during MCO. Moreover, this study also investigated the effect

of economy shock, health shock, environmental shock, political shock and risk management towards behavioral strategies among community in Perhentian Island, respectively. The significance of the finding of this study can provide the information and knowledge the related parties especially the Government of Malaysia to what extent the shock due to the pandemic in term of economy shock, health shock, environmental shock, political shock and risk management influences in term of loan payment, expenditure consumption and spiritual practice. Additionally, it can be as reference to the future study. It can provide the information and knowledge especially to the Government in improving the effective strategies in confronting the Covid-19 situation.

Literature Review

The Covid-19 lockdown and MCO had changed the household obviously especially men and participants' lifestyles. Most of them spent more of house activities during MCO compared to before which were only performed by women before the crisis (Al-Kazi et al, 2021). The Covid-19 pandemic had been affecting human behaviour. The COVID-19 pandemic presented fresh difficulties for people. In addition to affecting vulnerable groups through disease mortality and virus spread, the population as a whole was affected on an emotional, behavioural, and psychological level. Social isolation, social distancing, and other containment measures might have an impact on population behaviour and resulted in psychological problems Pedrosa et al (2020).

Shah, Ravichandran and Ravichandran, (2020) had highlighted the human behaviour commonly seen during pandemic including protective behavior, social distancing, health seeking behaviour, discriminatory behaviour, psychological behaviour, misinformation and herd behaviour. The high uncertainty on safety since there was no vaccine yet led to the protective behaviour among people. Social distancing was the strategies followed to prevent virus outbreak. The health seeking behaviour among people was important and as precautions to protect their health when having the symptom of Covid-19. Greater fear and perceived threat are linked to more intolerance, prejudice, and violence against stigmatised groups during pandemics. Effective communication is critical during a pandemic. Misinformation is easily disseminated and contributes to increased public outrage and fear. The most frequent emotional reactions are anger, worry, and fear. A lot of people are suddenly forced to be close to their immediate family. The outcomes for mental health have been the focus of the majority of psychological research on the COVID-19 pandemic. It is crucial to develop a better understanding of the general population's likely behavioural changes and their mostly detrimental effects on physical and mental health (Arora and Grey, 2020). Additionally, "panic buying" is the herd behaviour that has been seen most frequently during the pandemic.

Consumer behavior changes differently in emergencies (Wang et al., 2020). Initially, it was normal when the public typically responded to disaster with denial. The use of denial was important as the strategy in dealing with and being aware of danger. However, it depended on the individual whether their goals to avoid illness, avoid anxiety or to live by important life values. Some changes might be useful but it led to adverse impact consequences of excessive use (Yau et al., 2020). The implication of the findings Ozili (2020) was the most important consequence is the social anxiety among families and households in the region. Additionally, temporal social policies during pandemic affected the social and economic well-being of African. According to Szymkowiak (2020), taking precautions was the only way to reduce the negative effects of pandemic. According to the study of Liu et. al (2020), among the change of behavioural in most respondents in China are avoiding to the public places, reduced related

activities, reduced trips outside, avoiding contact, wearing a mask and hand hygiene. Moreover, in this situation the respondents without depression were more likely to avoid related activities and do preventive measures compared to other respondents with depression. Therefore, Sheth (2020) stated that a new norm with advanced technology, demographics change and innovative alternatives have been learned by consumer to cope with blurring the work, leisure, and education boundaries. Besides, based on Papageorge et al. (2020), income, work arrangements and beliefs about the social distancing effectiveness of are significantly related to the self-protective. Moreover, Jose et al. (2020) had found a significant association between knowledge and behavioural change.

During the COVID-19 pandemic, unusual consumer behaviour, was reported globally. Those with low health literacy tend to be less worried about COVID-19 because they were more confident in the federal government response (Wolf et al., 2020). Laato et al. (2020), found in their study, there was a strong relationship between self-intention to self-isolate and intention to make unusual purchases. It brought the empirical evidence that the consumer behavior was directly related to anticipated time spent in self-isolation. Besides, the high self-efficacy would handle the unusual behaviour such as panic buying. Based on Loxton et al. (2020), it was occurred due to consumers shift their behaviour to focus on “panic buying” of non-durable goods leading to the basic needs are prioritised according to distress or anxiety.

However, self-efficacy still played a role in unusual purchasing via the measured significant relation between intention to make unusual purchases and intention to self-isolate. According to Hashem (2020) and Sharma & Jhamb (2020), Covid-19 pandemic managed to transform the consumer behaviour online purchasing and e-payment towards depending more on online shopping and e-payment methods during MCO. Furthermore, not all categories of expenditures affected during pandemic. Pham, Do and Ha Le et al (2020) based on their study found that the covid-19 pandemic encouraged spending towards online shopping. According to Di Crosta et al (2021), the high impact of Covid-19 towards consumer behaviour which most of households spend more on needs and wants. It was depended on psychological factors towards needs and wants. In Vijai and Nivetha (2020), they found gender, is associated with prefer to online payment while occupation is not associated with COVID-19 reduced expenditure and saved income. Besides, monthly income is not associated with COVID-19 saved income and changed entire life.

In Martin et al. (2020), the savings and consumption of household drop significantly and took the average almost one year for recovery time. Decline in demand, change in consumption behavior and economic activities slowdown would extend the recovery time. Moreover, it took over a year to replenish the lost savings. Moreover, from Murakami, Shimizutani and Yamada (2020) finding, the household spending per capita will decline by 1–2% (food expenditure per capita by 2–3%) in one year as a result of the pandemic the Philippines. From the total spending, expenditure for food recorded the highest drop by 2–3%. However, lifestyle behaviors and changes were associated with subjective well-being (Hu et al., 2020). Islam encouraged to spend moderately and control or restrain our excessive lusts and expenses. As a muslim, we should realize and be prepared to deal with life constraints and challenges. If the expenses were managed complying the shari'ah Islam then Allah would improve the business and multiply His rewards and blessings. Furthermore, He would give us the additional convenience in order to anticipate the unexpected things or to support future generations (Rashid et al., 2018).

Methodology

This study has been conducted on 297 respondents (community) Perhentian Island using the simple random sampling. However, only 157 respondents managed to be collected due in weather constraint and transmission of covid-19 outbreak. The data were collected through the interview by face to face or respondents answered the questionnaires by themselves while being monitored by the enumerators. The data collected was analyzed using SPSS software. There are two tests conducted in this study including repeated measure ANOVA and regression analysis. The repeated measure ANOVA is implemented to determine the mean comparison of expenditure between before, during and after MCO. Meanwhile, the regression analysis is conducted to identify the effect of shocks due to the Covid-19 pandemic including economy shock, health shock, environmental shock, political shock and risk management towards behavioral strategies among community in Perhentian Island during MCO.

The data screening prior to does the repeated measure ANOVA and regression analysis, data screening is performed to test the normality and reliability of data. Normality test was implemented to test whether the data are normally distributed or otherwise. Meanwhile, the reliability was conducted to verify whether the indicators or items reliable in measuring their respective construct/variable. Next, after data normality and reliability achieved, the repeated measure ANOVA and regression analysis were carried out.

The repeated measured ANOVA is conducted to compare the mean of expenditure of food, medicine, pay debt and liability, saving, investment, entertainment (hobby and sport), electricity bill, water bill, telecommunication bill (telephone and internet), petrol/ diesel, public transport, online purchase, eating outside (including online order), charity/almsgiving and contribution to parents based on before, during and after MCO. Besides, the simple and multiple linear regression were also employed. The simple linear regression was conducted to identify the effect of shocks due the Covid-19 pandemic towards behavioral strategies during pandemic among community in Perhentian Island (Model 1) during MCO. In model 1, we regress the BS_1 = behavioural strategy (dependent variable) by S = shock due to the pandemic (independent variable) as follows

$$BS_1 = \beta_{01} + \beta_1 S$$

where β_{01} = intercept and β_1 = coefficient of shock due to the pandemic. β_1 indicated how much unit increase in behavioral strategy due to 1 unit increase in shock due to the pandemic.

The multiple linear regression was conducted to identify the effect of economic shock, health shock, environmental shock, political shock and risk management towards behavioral strategies during pandemic among community in Perhentian Island (Model 2) during MCO. Meanwhile, in model 2, behavioural strategy (BS_2) was regressed by economic shock (ES), health shock (HS), environmental shock (EN), political shock (PS) and risk management (RM).

$$BS_2 = \beta_{02} + \beta_2 ES + \beta_3 HS + \beta_4 EN + \beta_5 PS + \beta_6 RM$$

Denotes β_{02} = intercept while β_2 , β_3 , β_4 , β_5 and β_6 were coefficient of economic shock, health shock, environmental shock, political shock and risk management, respectively. The respective β_2 , β_3 , β_4 , β_5 and β_6 indicated how much unit increase in behavioral strategy due to 1 unit increase in economic shock, health shock, environmental shock, political shock and risk management.

Findings

4.1 Data Screening

Unstandardized residual regression of normality test has been conducted and the result is presented in Table 1. Model 1 is employed to identify the shock due to the pandemic towards behavioural strategy. Meanwhile Model 2 is to determine the effect economic shock, health shock, environmental shock, political shock and risk management towards behavioural strategy. The insignificant p-value ($p > 0.05$) obtained from the Kolmogorov-Smirnov and Shapiro-Wilk statistic imply the sample data of model 1 and model 2 are normally distributed. Additionally, it is supported by the result of Skewness and Kurtosis's statistic in the range of -1 and +1 [-1, 1] for both models which are the bell curve approximately representing the population distribution. Therefore, it is enough evidence to employ these models for further parametric test. Besides, the data are reduced to 152 respondents due to the outlier elimination.

Table 1: *Normality test*

Model	Unstandardized Residual	Kolmogorov-Smirnov ^a	Shapiro-Wilk	Skewness	Kurtosis
1	Statistic	0.071	0.061	-0.130	-0.791
	p-value	0.061*	0.053*		
2	Statistic	0.062	0.989	0.040	-0.662
	p-value	0.200*	0.300*		

Notes: *The normality of unstandardized residual regression involved dependent variable (Shock due to the*

Pandemic) and independent variables (loan/rent, consumption expenditure and spiritual practice).

This is a lower bound of the true significance and ^a Lilliefors Significance Correction

4.1 Demographic Profile

Table 2 shows the demographic profile of 152 respondents of Perhentian Island. About 68.4% are male and 31.6% female. Average of respondents records the age 21 to 50 years which are 73.1%. Besides, majority respondents (82.9%) are from Terengganu and remaining are from Johor, Kedah, Kelantan, Perak and Selangor. Most of them are married (68.4%) while 23.7% and 7.9% are single and divorced/widowed, respectively. Besides, most of respondents' state SPM (44.7%) as their highest educational level followed by PMR/SRP and below (28.9%), STPM/Sijil kemahiran/Diploma (12.5%), none (7.2%) as well as degree and above (6.6%), respectively. Majority have the income of RM501 to RM1000 (36.8%) and RM1001 to RM2000 (38.8%). Additionally, most of respondents (73.0%) have 1 to 3 total number of dependents including children, spouse, parents, siblings/relatives and others.

4.1.1 Occupation

The status and sector of occupation are shown in Table 3. About 50.0% of respondents were working before and during MCO (still working and have full income) while 32.9% were working before MCO and job loss after MCO. Meanwhile, the remaining (15.3%) are jobless during after MCO, others and unemployed. The unemployed respondents include housewives. Furthermore, majority of respondents are under self-employed (43.4%), followed by private sectors (40.8%), government agencies (7.2%) and others (5.3%). Around unemployed respondents, 0.7% is supported by government/children.

Table 2: Demographic profile

Demographic profile	Frequency (N=152)	Percentage
Gender		
Male	104	68.4
Female	48	31.6
Age		
≤20	12	7.9
21-30	36	23.7
31-40	41	27.0
41-50	34	22.4
51-60	14	9.2
60+	10	6.6
Not specified	5	3.3
Place of Birth		
Terengganu	126	82.9
Others	26	17.1
Status of marriage		
Single	36	23.7
Married	104	68.4
Divorced/widowed	12	7.9
Educational level		
None	11	7.2
PMR/SRP and below	44	28.9
SPM	68	44.7
STPM/Sijil kemahiran/Diploma	19	12.5
Degree and above	10	6.6
Level of income		
≤RM500	11	7.2
RM501-- RM1000	56	36.8
RM1001-RM2000	59	38.8
RM2001-RM3000	13	8.6
RM3001-RM4000	2	1.3
RM4001-RM5000	5	3.3
RM5000+	2	1.3
None	4	2.6
Total of dependents		
1- 3	111	73.0
4- 6	21	13.8
7- 9	6	3.9
10+	1	0.7
None	13	8.6

Note: *N* represents the total number of respondents

4.1.2 Mean comparison of expenditures before, during and after MCO

Table 4 describes the mean comparison of expenditures before, during and after MCO using the repeated measure ANOVA. Since the Mauchly's Test of Sphericity are significant implies the assumption of sphericity had been violated, then the Greenhouse-Geisser correction should be performed. It indicates that Greenhouse-Geisser correction show the significant result for expenditure of food, debt and liability, as well as petrol/diesel respectively. Otherwise, Sphericity is assumed. The result of Sphericity is significant for saving,

entertainment (hobby and sport), online purchase and contribution to parents. Therefore, it shows their existence of paired wise comparison. Thus, the result indicates there is significant different between mean expenditure of food, debt and liability, saving, entertainment (hobby and sport), petrol/diesel and contribution to parents before and during MCO as well as during and after MCO, respectively.

Table 3: Occupation

Occupation	Frequency (N=152)	Percentage
Status of occupation		
Working before and during MCO (Still working and have full income)	76	50.0
Working before MCO and jobless after MCO	50	32.9
Jobless during and after MCO	3	2.0
Others	18	11.8
Unemployed		
Sector	5	3.3
Government agency	11	7.2
Private	62	40.8
Self-employed	66	43.4
Others	8	5.3
None	5	3.3

Note: N represents the total number of respondents

Table 4: Mean comparison of expenditures before, during and after MCO

Types of expenditure	Mean Expenditure (RM)	Mauchly's Test of Sphericity		Paired wise comparison		
		Source	F	MCO	Mean difference	P-value
Food						
Before MCO	753.57	Greenhouse-Geisser	7.754*	Before*	141.12**	0.007
During MCO	612.45			during		
After MCO	723.53			after		
Medicine						
Before MCO	186.38	Greenhouse-Geisser	0.918	Before*	-2.76	1.000
During MCO	189.14			during		
After MCO	156.03			after		
Pay debt and liability						
Before MCO	786.52	Greenhouse-Geisser	5.198*	Before*	314.85*	0.041
During MCO	471.67			during		
After MCO	979.55			after		

Saving						
Before MCO	786.21	Sphericity Assumed	8.079* *	Before*	655.17**	0.001
During MCO	131.03			during	182.76	0.851
After MCO	603.45			After*	-472.41*	0.014
Investment						
Before MCO	445.00	Sphericity Assumed	3.473	Before*	178.00	0.141
During MCO	267.00			during	98.00	0.468
After MCO	347.00			After*	-80.00	0.669
Entertainment (hobby and sport)						
Before MCO	145.38	Sphericity Assumed	7.799* *	Before*	133.08*	0.014
During MCO	12.31			during	74.62	0.243
After MCO	70.77			After*	-58.46*	0.041
Electricity bill						
Before MCO	146.20	Greenhouse -Geisser	3.233	Before*	-37.55	0.156
During MCO	183.75			during	-3.13	1.000
After MCO	149.33			After*	34.42	0.242
Water bill						
Before MCO	52.44	Sphericity Assumed	0.363	Before*	-0.73	1.000
During MCO	53.17			during	-5.09	1.000
After MCO	57.53			After*	-4.36	1.000
Telecommunication bill (telephone and internet)						
Before MCO	65.52	Greenhouse -Geisser	2.658	Before*	2.65	0.272
During MCO	62.87			during	1.22	0.468
After MCO	64.30			After*	-1.43	0.364
Petrol/ Diesel						
Before MCO	732.30	Greenhouse -Geisser	11.363 **	Before*	396.20**	0.002
During MCO	336.09			during	-41.39	1.000
After MCO	773.69			After*	-437.59**	0.004

Public transport							
Before MCO	224.62	Greenhouse -Geisser	3.04	Before*	140.26	0.226	
During MCO	84.36			During*	12.82	0.365	
After MCO	211.79			after	-127.44	0.318	
Online purchase							
Before MCO	222.00	Sphericity Assumed	8.159* *	Before*	209.50*	0.011	
During MCO	12.50			During*	93.88*	0.045	
After MCO	128.13			after	-115.63	0.179	
Eating outside (including online order)							
Before MCO	251.03	Greenhouse -Geisser	1.11	Before*	93.38	0.068	
During MCO	157.65			During*	31.62	1.000	
After MCO	219.41			after	-61.77	1.000	
Charity/almsgiving							
Before MCO	64.13	Greenhouse -Geisser	1.01	Before*	-12.61	1.000	
During MCO	76.74			During*	20.44	0.426	
After MCO	43.70			after	33.04	0.775	
Contribution to parents							
Before MCO	297.12	Sphericity Assumed	11.744 **	Before*	115.39**	0.000	
During MCO	181.73			During*	45.19	0.187	
After MCO	251.92			after	-70.19**	0.004	

**significant at 0.05 level

Meanwhile, according to the pairwise comparison, there is no significant difference between mean expenditure of food, debt and liability, saving, entertainment (hobby and sport), petrol/diesel and contribution to parents before and after MCO, respectively. Besides, there is no significant difference between mean expenditure for medicine, investment, electricity bill, water bill, telecommunication bill (telephone and internet), public transport, eating outside (including online order) as well as charity/almmsgiving before, during and after MCO, respectively. Meanwhile, the mean expenditure for online purchase shows significant difference before and during MCO as well as before and after MCO, respectively. Consequently, it explains the big change for the mean expenditure for food in which the respondents had to reduce their spending on food, debt and liability, saving, entertainment (hobby and sport), petrol/diesel, online purchase and contribution to parents during MCO.

4.1.3 Effect of shock due the pandemic towards behavioral strategies

The result of the effect of shock due the Covid-19 pandemic towards behavioral strategies to overcome consumption expenditure and spiritual practice is described in Table 5. Two models of regression analysis have been conducted on the same dependent variables of behavioural strategy. In model 1, shock due to the pandemic is identified whether affecting the behavioural strategy among respondent during pandemic. Meanwhile, model 2 is to determine the effect shock due to the pandemic in perspective of economic shock, health shock, environmental shock, political shock and risk management towards behavioural strategy. The result of VIF is less than 5 and it shows that all these models are free from multicollinearity problems. Additionally, the Durbin-Watson statistic is less than 4 in which DW=1.694 (Model 1) and DW=1.723 (Model 2). Hence, according to the rule of thumbs, since the Durbin Watson between 1.5 and 2.5, it certifies that the residual is uncorrelated.

Model 1 and 2 show the R square of 0.393 and 0.478, respectively. It implies that 39.3 percent of behavioural strategy can be explained by shock due to the pandemic while 60.7 percent of behavioural strategy might be explained by other variables. Besides, it also indicates that 47.8 percent of behavioural strategy can be explained by economic shock, health shock, environmental shock, political shock and risk management while the remaining might be explained by other variables. From model 1, it is obtained that the variable of shock due to the pandemic is significant and positively affecting the behavioural strategy during the pandemic with $\beta=0.936$. It shows that the 1 unit increase in shock due the pandemic will increase 0.936 unit of the behavioural strategy during pandemic. Meanwhile, from Model 2, the economic shock, health shock, environmental shock, and risk management are significant and positively affect the behavioural strategy except political shock. Besides, the economic shock is dominant factor affecting the behavioural strategy during pandemic with highest beta of $\beta_2=0.404$, followed by health shock ($\beta_3=0.215$), risk management ($\beta_6=0.167$) and environmental shock ($\beta_4=0.122$). It clarifies that the increase in 1 unit of economic shock, health shock, environmental shock and risk management will increase 0.404, 0.215, 0.122 and 0.167 units of behavioural strategy during pandemic. Whereas the political shock are not significant, hence, it show that the political shock not affect the behavioural strategy during pandemic.

Table 5: Effect of shock due the pandemic towards behavioral strategies

Variables	Model				
		1		2	
		β	SE ₁	β	SE ₂
^{1,2} Constant	β_0	1.024 (3.873)**	0.264	0.806 (2.687)**	
¹ Shock due to the pandemic	β_1	0.936 (9.860)**	0.095		
² Economy shock	β_2			0.404 (5.626)**	0.300
² Health shock	β_3			0.215 (2.844)**	0.072
² Environmental shock	β_4			0.122 (1.997)*	0.075
² Political shock	β_5			-0.024 (-0.327)	0.061
² Risk management	β_6			0.167 (2.228)*	0.073
R Square		0.393		0.478	
ANOVA Model	F-value	97.226**		26.753**	
DW		1.694		1.723	
VIF		< 5		< 5	

Notes: Dependent variable is Behavioural strategy; DW represents Durbin Watson and VIF represents variance inflation factor. The value in parentheses represent t-value.

And ** Significant at 0.05 and 0.01 level, respectively

¹ and ² are independent variables for model 1 and 2, respectively

Discussion

From analysis of repeated measure ANOVA, it shows a significant different between mean expenditure of food, debt and liability, saving, entertainment (hobby and sport), petrol/diesel and contribution to parents before and during MCO as well as during and after MCO, respectively. Hence, it indicates that most of respondents had to reduce these types of spending during MCO. It is line with Department of Statistics Malaysia (2020) in which the minimum usage of public transport, the limited movement and the drop of oil prices led to the mean of household expenditure in Transport declined up to 80 per cent. Additionally, Murakami, Shimizutani and Yamada (2020) expected that the household expenditure per capita would decrease by 1–2% (food expenditure per capita by 2–3%) in one year and with the highest drop by 2–3% of food expenditure out of total spending.

Besides, the economic shock is dominant factor affecting the behavioural strategy during pandemic with highest beta of $\beta_2=0.404$, followed by health shock ($\beta_3=0.215$), risk management ($\beta_6=0.167$) and environmental shock ($\beta_4=0.122$). It clarifies that the increase in 1 unit of economic shock, health shock, environmental shock and risk management will increase 0.404, 0.215, 0.122 and 0.167 units of behavioural strategy during pandemic. Whereas the political shock are not significant, hence, it shows that the political shock not affect the behavioural strategy during pandemic. Consistent with Mehta, Saxena and Purohit (2020) study found that the consumers stated that a new or revived behavioural understanding of buying created due to the COVID-19 shock, implying a conscious shift towards spiritual consumption. Moreover, according to Sheth (2020) a new norm with advanced technology, demographics change and innovative alternatives have been learned by consumer to cope with blurring the work, leisure, and education boundaries. Besides, more than half of respondents from Jribi et al. (2020) study, were sometimes purchasing on discounted food products while 39% always bought these products.

Conclusion and recommendation

The outbreak of COVID-19 has significant impact to Visit Malaysia 2020 with large drop in the number of tourists due to bookings cancellation and business operation are being paused during MCO. Even more, it also affects the low-income communities especially B40 who have been losing their job and asked for unpaid leave. As result, many of them to feed their families with their comparatively lower incomes (Samad, 2020). Consequently, it affects the community in islands in Malaysia especially those depend entirely on tourism activities. Therefore, this study addresses the knowledge gap by including the community of Perhentian Island, Malaysia as the sample of study in term of mean comparison for monthly expenditure before, during and after MCO and identify how the COVID-19 outbreak affected the behavioral strategies among community in Perhentian Island. Moreover, the shock due to the pandemic is significant and positively affecting the behavioural strategy. The result indicates there is significant different between mean expenditure of food, debt and liability, saving, entertainment (hobby and sport), petrol/diesel and contribution to parents before and during MCO as well as during and after MCO, respectively. The economic shock is dominant factor affecting the behavioural strategy to overcome problem regarding expenditure and spiritual practice, followed by health shock, risk management and environmental shock.

The implication of this study is to provide the information and knowledge regarding the effect on Covid-19 pandemic towards behaviour of Perhentian Island's communities in term of how they manage the loan payment, expenditure consumption and spiritual practice during MCO. It is convenient to the authorities to ensure they have managed their loan payment, expenditure consumption and spiritual practice well during MCO. Besides, the findings can assist the Government and other authorities to improve the strategies in the future in nurturing good behaviour among communities especially in managing the loan payment, expenditure consumption and spiritual practice not only in MCO even in other emergency situations. It is to reduce the negative impact which could harmful the communities. According to Yau et al (2020), the further qualitative and quantitative studies on the changes of behaviour needed to be explored to provide the better understanding and management of the behaviour changes due to the COVID-19 pandemic. Watson et al (2021) disclosed that to ensure that everyone had access to the supports they needed to engage in physical activity while still adhering to instructions to avoid the spread of COVID-19, ongoing efforts were required.

This study focusses on the community in Perhentian Island to find out how far the impact of Covid-19 on tourism destination as we already known the tourism as the main source of income community in Perhentian Island. Moreover, the findings of this study could also be applied as guidelines for future research. Therefore, from the findings, a few suggestions are identified which are the community should reduce all types of their spending just not only to overcome problem regarding expenditure during pandemic but it is to ensure the standard operation procedure (SOP) complied. Furthermore, the future research should include the other variables such as personality, family background, financial and expenditure. Besides, the qualitative research should be implemented as supplementary to the quantitative research to gain more details information. Additionally, the future research could carry out the analysis using the secondary data such as panel data and time series data. Besides, among the constraints and challenges confront including rainfall and big waves affecting the trips researchers and enumerator to the islands. Besides, the duration of field quite longer due to MCO all researchers and enumerator need to comply the SOP such as wearing on mask, keeping a distance of at least 1 meter from each other, avoid crowds and always having good hygiene.

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