"I Know What You Did During the Pandemic"

Consumer Behavioral Actions During the Covid-19 Outbreak

Andhy Setyawan[1](✉) and Fandy Tjiptono[2]

[1] University of Surabaya, Surabaya, Indonesia
andhy@staff.ubaya.ac.id
[2] Victoria University of Wellington, Wellington, New Zealand

Abstract. Although it is not the only pandemic in human history, the Covid-19 has had severe negative long-term impacts and disruptions on business and consumer behavior. The rapid and deadly transmission of Covid-19 has caused various individual responses in social interactions and personal activities. This study aims to examine how individuals have responded to the Covid-19 outbreak. Based on the Exploratory Factor Analysis (EFA) of 400 respondents, consumer behavioral actions during the Covid-19 pandemic can be classified into four categories. The typology includes (1) Complying Behavior; (2) Updating and Staying Fit; (3) Preventing and Anticipating Behavior; and (4) Avoiding and Minimizing Risks. Not only the typology provides important managerial and public policy insights into how to manage public behavioral responses during a major health-related crisis, but it also presents an opportunity for a further academic investigation into the determinants of such behavioral actions.

Keywords: the covid-19 pandemic · exploratory factor analysis · behavioral actions

1 Introduction

The Covid-19 outbreak has ravaged various world orders in the last three years. Starting from the findings of cases of acute pneumonia in Wuhan, China, Covid-19 was contagious and spread rapidly to various regions of the world, so it was officially announced by WHO as a global pandemic [1, 2]. The high-speed and deadly transmission of Covid-19 has become a significant problem in the health sector [3, 4], which later developed into a trigger for a global crisis [5].

Various restrictions (such as regional lockdown, mandatory and self-isolation, travel bans, curbs on crowds, and social distancing) to prevent the transmission of Covid-19 have paralyzed world economic activities across virtually all sectors. Covid-19 accelerates the disruption of human life [6] and the long-term transformation of consumer behavior [7]. Furthermore, Sigala [8] argued that Covid-19 is a trigger for business activities to rethink their sustainability practices and build a strong resilience.

In Indonesia, the first case of Covid-19 was officially announced in early March 2020 [9]. Although Indonesia was among the last group of Asian countries exposed to Covid-19, Nielsen [10] suggested that the growth rate of new cases in the country was very

high. Since then, the Indonesian government has actively issued a number of policies to control Covid-19, such as the implementation of the Java-Bali regional lockdowns, the compulsory compliance to health protocols, and the mandatory use of face masks [11].

During the pandemic, social media plays a significant role in updating news about Covid-19 in Indonesia [12]. It has a positive impact in increasing awareness and efforts to overcome Covid-19. The dark side is that social media coverage often increases an individual's anxiety and negative emotions. It had caused panic buying among some people who wanted to ensure the availability of and access to food and other basic necessities [13]. Most traditional, modern, and even online retail outlets faced unprecedented increased demand for scarce product items, such as vitamins, face masks, and hand sanitizers.

According to a McKinsey survey [14], more than 50% of respondents were worried about health and personal protection issues due to the Covid-19 pandemic. Another study also reported serious health concerns among the general public [15]. Nevertheless, a systematic effort in identifying and classifying individual behavior actions during the Covid-19 pandemic is still limited. Using a self-administered survey, the present study aims to explore and develop a typology of consumer behavioral actions during the Covid-19 crisis.

2   Research Method

A descriptive quantitative research approach was adopted in this study [16]. Consumer behavioral actions were measured using established scales [15, 17]. There are 16 behavioral actions measurement items (5-point Likert scale, ranging from 1 = Strongly Disagree to 5 = Strongly Agree). Furthermore, data were collected using a self-administered survey, where 400 respondents participated in the study. Convenience sampling was used due to the availability and relative ease of contact [18] with consumers aged 17 years and above during the Community Activities Restrictions Enforcement period.

Data were analyzed using Exploratory Factor Analysis (EFA) techniques. EFA was chosen to show the actual component structure of a variable under study [19]. EFA will reduce the measurement items of a variable into several groups to represent the key dimensions of a variable. The main dimensional groups that make up the behavioral actions provide a clearer picture of consumer behavior responses to the Covid-19 outbreak.

3   Results and Discussion

The first dimension, complying behavior, consists of 4 items: BCS1, BCS6, BCS7, and BCS9. Complying behavior shows an individual's compliance response in carrying out health protocols, for example, maintaining physical distance, wearing a mask, and washing hands. The factor loading value ranges from 0.585 to 0.763, with Cronbach's value of 0.729. The first dimension describes the effectiveness of various forms of campaigns carried out by the government to increase public awareness in dealing with the Covid-19 outbreak.

The results of the EFA analysis of 400 respondent data show a high Kaiser-Meyer-Olkin (KMO = 0.885) Measure of Sampling Adequacy value. With the existing sample size, EFA can form valid dimensions of behavioral actions. The complete results of the EFA in the form of grouping measurement items and their loading factor values are shown in Table 1.

Table 1 shows that consumer responses to the Covid-19 outbreak can be grouped into four main dimensions. The factor loading value indicates that all the items used as the primary dimension constructors are valid. At a sample size of 400 respondents, a loading factor of 0.3 is sufficient to suggest that the measurement item is valid [19]. As shown in Table 1, the minimum value of the loading factor is 0.405, and the minimum value of Cronbach's alpha (α) is 0.642, indicating that all measurement items are valid and reliable.

Table 1. Exploratory Factor Analysis (EFA) Results-Factor Loading and Internal Consistency (Cronbach's α)

Construct		Item	F1	F2	F3	F4
Complying Behavior ($\alpha = 0.729$)	BCS1	Stick to the social distancing guidelines	0.585			
	BCS6	Purchase of face mask	0.614			
	BCS7	Increased washing of hands	0.758			
	BCS9	Wearing a face mask	0.763			
Updating and Staying Fit ($\alpha = 0.642$)	BCS2	Reading online news about Covid-19 in Indonesia.		0.736		
	BCS3	Consulting a doctor about the symptoms of Covid-19.		0.822		
	BCS10	Taking food supplements		0.565		
Preventing and Anticipating Behavior ($\alpha = 0.681$)	BCS4	Purchasing hand sanitizer.			0.538	
	BCS5	Increased shopping for food supplies			0.796	
	BCS8	Increased use of disinfectants			0.582	
Avoiding and Minimizing Risks ($\alpha = 0.817$)	BCS11	Avoiding crowds				0.737
	BCS12	Avoiding major events				0.738
	BCS13	Avoiding the use of public transportation				0.693
	BCS14	Avoiding travel within Indonesia				0.826
	BCS15	Staying at home				0.602
	BCS16	Having a shower as soon as arriving home from a trip				0.405

The second and third dimensions of behavioral actions represent personal efforts to protect oneself. The second dimension, updating and staying fit, shows individual responses to updating information about COVID-19 (reading online news – BCS2 and even consulting doctors – BCS3) and keeping themselves healthy by consuming food supplements (BCS10). The factor loading value indicates the validity of the measurement items from 0.565 to 0.822. The reliability is indicated by the Cronbach's value of 0.642.

The third dimension, preventing and anticipating behavior, consists of personal efforts to take preventive measures against Covid-19, such as buying hand sanitizers (BCS4), ensuring food availability (BCS5), and increasing the use of disinfectants (BCS8). Preventive measures in this third dimension may trigger panic buying, as described in Sheth's [7] study. The factor loading number ranges from 0.538 to 0.796, and Cronbach's is 0.681, indicating that the measurement items on the third dimension are both valid and reliable.

The last dimension, avoiding and minimizing risks, shows individuals' actions to minimize their social contacts and interactions. The measurement items in this fourth dimension consist of BCS11 to BCS16, for example, avoiding crowds, avoiding public transportation modes, and staying at home. The validity and reliability of the measurements are indicated by the factor loading values ranging from 0.405 to 0.826, and the Cronbach's value of 0.817.

4   Conclusion

As community members, every individual plays an important role in integrated initiatives and efforts to cope with the Covid-19 crisis. The ability and willingness to take positive behavioral actions are among the key success factors in minimizing the risks of and recovering from the detrimental effects of the pandemic. The present study offers a typology of four consumer behavioral actions in response to the outbreak: (1) Complying Behavior; (2) Updating and Staying Fit; (3) Preventing and Anticipating Behavior; and (4) Avoiding and Minimizing Risks. These actions may reflect changes in consumer consumption habits [7] and how they react, cope with, and adapt to the new normal during the Covid-19 pandemic [20].

The present research findings provide some critical insights for important stakeholders, including the government (as policymakers), businesspeople, and individual consumers. The government needs to continue campaigning for various preventive programs to encourage and remind the public to comply with health protocols in their daily lives at home, schools, workplaces, and other venues strictly. The government and businesspeople also need to provide adequate health facilities and ensure availability and access to food, food supplements, and health equipment (for example, masks, hand sanitizers, and disinfectants). This may present new business opportunities in providing medical supplies, devices, and equipment.

While the fourth dimension (Avoiding and Minimizing Risks) is relevant for all individuals, this factor is extremely important for some specific segments (e.g., the elderly group; those with comorbidities, such as obesity, cardiovascular disease, respiratory disease, and diabetes; and their caregivers). The government needs to control the crowds (e.g., by setting the maximum capacity of in-door gatherings) and ensure that public

spaces are regulated according to strict health protocols (e.g., wearing face masks). Individuals vulnerable to coronavirus are encouraged to minimize their activities outside their residential places and do most activities at home (e.g., working, studying, and shopping). This situation can be facilitated by online shopping, online meeting applications (e.g., Zoom, Microsoft Teams, Google Hangouts) and online entertainment service providers (e.g., Netflix, Vidio, Disney Hot Star, and YouTube).

All individual responses to the Covid-19 outbreak prompted many adjustments to business activities to remain sustainable. Sigala [8] highlighted that Covid-19 is the driving force for transformation in business activities in response, reset, and recovery. In line with this thought, Tjiptono et al. [21] proposed a typology of 4Rs: Restructuring, Realigning, Researching, and Retargeting to build sustainable business activities during the Covid-19 pandemic. Since understanding consumer behavioral actions help us all deal with the pandemic crisis, it is important and interesting for future research to investigate the determinants of such positive actions. It is also equally insightful to explore the antecedents of both positive and negative (e.g., panic buying and rejection of behavioral mandates) behavioral actions.

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