

## **Covid-19 Pandemic Consequences on Consumers' Panic Buying: The Role of the Fear and Uncertainty**

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### **Abstract**

The worldwide COVID-19 epidemic has drawn the attention of researchers, civil authorities, and the general public on the practice of “panic buying,” which is defined as the excessive purchasing of certain materials—particularly food and hygiene-related products—in expectation of a scarcity. This phenomenon has been well-documented in the aftermath of a number of natural and man-made disasters, but its global scope and severity in the context of COVID-19 are unprecedented. The current COVID-19 epidemic has led to a spike in panic buying in several nations, which has resulted in stockouts and supply chain problems. Therefore, it has attracted the attention of academics and retailers. On the basis of the health belief model, perceived scarcity theory, and expected regret theory presented in this work, we developed a theoretical model that connected the drivers of panic purchasing and examined their interrelationships. As a relatively new and uncharted topic in consumer behavior research, this study aims to uncover and synthesize the psychological reasons of panic buying. Individuals' perceptions of the health crisis and scarcity of products, fear of the unknown, and coping behaviour is all implicated in panic buying, as well as social psychological factors. As part of its contribution to the literature, this study consolidates the sparse and scattered research on the causes of panic buying, gaining greater theoretical insights into each cause, and offering some implications for health professionals, policymakers, and retailers on implementing appropriate policies and strategies for managing panic buying. Future research is also recommended.

*Keywords: Panic buying; health belief model; perceived scarcity; COVID-19; health crisis*

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## 1. Introduction

Panic buying refers to a disorder in behaviour, in which customers buy an excessively high amount of goods, to avoid future shortfalls (Zheng, Shou, & Yang, 2021). In return, the consequences of panic buying on supply chains, macroeconomic systems, retail and public policy are considerable. During the COVID-19 pandemic, the safety and livelihood of persons have risen by 49 per cent (Zwanka & Buff, 2021). Individuals may turn to a panic mechanism to purchase as a reaction to this unease. The present research indicates a complicated and diverse phenomenon in terms of panic buying. It may be associated or induced by cognitive impairment, affective components such as anxiety and worry (Bentall et al., 2021). Despite this research, Frost, Steketee, and Tolin (2015), suggest that the panic buying phenomenon is still very much a mystery and requires more investigation. More specifically, Grisham, Brown, Savage, Steketee, and Barlow (2007), argued that analysis of the panic buying phenomenon through a neuropsychological lens had been limited. Therefore, future studies should examine and analyze the effect of cognitive function on this phenomenon.

COVID-19 has had a devastating influence on global economy ever since the globe was shaken by fear and uncertainty as a result of the pandemic outbreak. Due to government-imposed limitations, many small and medium-sized businesses were forced to shut down (Allington, Duffy, Wessely, Dhavan, & Rubinf, 2020). People were terrified by the increasing number of illnesses and fatalities. It seemed as though a holocaust was about to happen. WHO has revealed that the COVID-19 worldwide spread has reached over 207 million infected cases and is approaching 4.37 million fatalities, according to current figures (WHO Corona Disease Dashboard, 2021). It's no secret that the COVID-19 epidemic offered a unique challenge to the world's health authorities.

As a result of the COVID-19 epidemic, people throughout the world faced a unique problem (Islam et al., 2021). As soon as the new Coronavirus (Mahase, 2021) was discovered in China, it swiftly spread throughout the world. It was declared a "pandemic" on March 11, 2020, by WHO's Director-General (WHO, 2020). There was no effective COVID-19 vaccination available, therefore governments throughout the world had to enforce social distance and proclaim country-wide lockdowns as precautionary measures to keep the virus from spreading (Arafat, Kar, & Kabir, 2020; Hall, Prayag, Fieger, & Dyason, 2020).

Panic acquiring has been defined as "the phenomena of a rapid surge in the purchase of one or more necessary items in excess of normal need caused by adversity, generally a tragedy or an outbreak, resulting in an imbalance between supply and demand." PB has addressed several significant elements, such as a sudden rise in the acquisition of vital necessary items in excess of necessities, which is generally prompted by bad occurrences (Arafat, Kar, Menon, et al., 2020). It might be spontaneous or deliberate. However, PB has a number of negative consequences, including supply chain disruption, fake commodities shortages, and stock price increases (Naeem, 2021). Furthermore, big crowds and lines in retail areas and businesses may result in further clusters. Some preventative techniques have been offered, including responsible media reporting, kinship promotion, rationing, authority assurance, and psychological interventions to prevent the incidents (Billore & Anisimova, 2021).

On March 13, 2020, it was announced that there are 197 confirmed coronavirus cases in Malaysia (Ministry of Health Malaysia, 2020a). Due to an upsurge in

coronavirus infections, the MOHM recommended individuals to practice good personal hygiene and use facemasks if they have respiratory infection symptoms. Travel restrictions to a few countries affected by the Covid-19, including as China, Japan, Iran, Italy, and the Republic of Korea, are among the other actions made by the Malaysian government. Anxiety, worry, and hypochondriacal thinking have been provoked by the increasing number of Covid-19 instances reported on a daily basis. As a result, Malaysian buyers, like those in Singapore and Hong Kong, have gone into panic shopping mode (New Straits Times, 2020b). Panic buying over Covid-19 has been recorded all across the world, with the trend focusing on non-medical commodities like toilet paper, quick noodles, and dried food. There is currently little agreement in Malaysia on how to best quantify the triggers of panic buying behavior. There is a scarcity of empirical evidence about the elements that cause panic buying among Malaysian consumers. Despite the fact that there has been a lot of research on coronavirus, (Phang, Balakrishnan, & Ting, 2021; Zwanka & Buff, 2021) not many studies in Malaysia have looked at the customers' perspective on panic buying. As a result, the nature of panic buying is yet unknown. A new line of evidence regarding panic buying behavior is presented in this research. The study's main question is, "What are the elements that cause panic buying behavior among Malaysian consumers?" The major goal of this study is to determine the elements that cause panic buying among Malaysian consumers. This research offers a wonderful chance to learn more about panic buying behavior caused by Covid-19. The paper is unable to give a complete review and empirical evidence of panic buying behavior due to conceptual constraints. The study starts with an introduction to a literature review debate, and a conclusion. The conclusion discusses the consequences, limitations, and future investigations.

## **2. Literature Review**

### **2.1. Underpinning Theory**

This research utilizes three ideas to characterize the factors of panic purchasing. They are the health belief model, perceived scarcity, and expected regret theories. Based on psychology, these frameworks evaluate the cognitive, affective, and behavioral aspects of panic buying (Iacob, Ionescu, Avram, & Cojocaru, 2021; Yuen, Leong, Wong, & Wang, 2021).

The health belief model has been used in a variety of community-based health intervention situations, and its components (i.e., perceived vulnerability, perceived severity, result expectancy, signals to action, and self-efficacy) explain the causes of product scarcity in the pandemic. As a result of this imagined scarcity, people tend to anticipate regret and spend in a frenzy. The health belief model has historically been used to determine the reasons for people's inability to implement disease prevention procedures or screening exams for early illness detection (Sim, Chua, Vieta, & Fernandez, 2020), and it has been proven to affect the adoption of health prevention practices (Islam et al., 2021). It is a frequently used paradigm in the realm of health behavior to explain the implementation and maintenance of health-related interventions. In the context of the current study, panic purchasing may be viewed as a preventative health activity that serves to reduce the likelihood of becoming infected

with COVID-19 and being affected by a stock out of products and services as a result of supply chain disruptions (Naeem, 2021).

The elements in the health belief model are thought to influence consumers' perceptions of scarcity of goods and services because they influence customers' understanding of the availability of resources while making purchasing decisions. In essence, perceived susceptibility and severity (i.e., perceived vulnerability to and risk of contracting COVID-19), as well as self-efficacy in protecting oneself from the pandemic, are directly related to consumers' level of worry, task, and response orientation (Iacob et al., 2021) toward ensuring the availability of goods.

In other words, perceived scarcity is the belief that something is scarce (Hall, Fieger, Prayag, & Dyason, 2021). This causes customers to increase their purchases as a result of heightened urgency or perceived worth of the product (Yuen et al., 2021). One reason might be the fear of losing one's independence, which could increase one's desire to obtain a near alternative that may become unavailable soon. As a result of their assumption that their flexibility in carrying out certain behaviors is constrained panic buying behaviors (Arafat, Kar, & Kabir, 2020; Hall et al., 2020).

## **2.2. The Factors That Influence Perceived Scarcity**

It's important to note that in this study, perceived scarcity is a consumer's perception of resource abundance or availability in this COVID-19 epidemic. Consumers' perceived shortage leading to panic buying has only been studied in a few studies. As a result of existing research, it appears that perceived scarcity is affected by factors such as a sense of insecurity and instability (Arafat, Kar, Menon, et al., 2020; Hesham, Riadh, & Sihem, 2021), as well as supply chain disruptions. When it comes to their sense of scarcity, consumers as social animals are influenced by herd instinct (the intensity of reactions from others around us) Hall et al., 2021) and this is amplified by media narratives (Allington et al., 2020), which may increase the fear of acquiring COVID-19. Desperation is also impacted by our primitive brains, which are able to influence our judgments and decisions that are vital to our survival (De Kock et al., 2021). Decreased uncertainty and anxiety as well as an enhanced sense of control are also factors that impact perceived scarcity (Moore, Wierenga, Prince, Gillani, & Mintz, 2021). Finally, perceived scarcity is impacted by consumers' perceptions of vulnerability owing to their lack of trust in the government, which leads to an overestimation of risk and an underestimation of aid (Barnes, Diaz, & Arnaboldi, 2021; Naeem, 2021; Prentice, Quach, & Thaichon, 2020).

## **2.3. Perceived Susceptibility's Effect on Perceived Scarcity**

Customers' perception of risk or the possibility of getting COVID-19 is defined in this study as perceived susceptibility. Depending on their physiological and psychological health, as well as their trust in the future handling of the pandemic, they may see themselves as more vulnerable. If you'd like to learn more about COVID-19, [click here](#). When it comes to health-related behavior, perceived vulnerability is a powerful motivator (Arafat, Islam, & Kar, 2021; Arafat, Kar, & Aminuzzaman, 2021). Customers will experience scarcity more strongly if they believe they have a significant chance of getting COVID 19. There is an increased likelihood of limitations on freight



movement if there is a higher risk of contracting COVID-19, which in turn slows down supply chain inventory replenishment. The availability of items is reduced, resulting in more frequent stockouts and a sense of scarcity.

#### **2.4. Fear of the Uncertainty**

General mental discomfort such as dread and anxiety is expected during a disease outbreak (Arafat, Kar, Menon, et al., 2020; Untaru & Han, 2021). As a result of humans' incapacity to anticipate the outcome of an outbreak, the human domination over nature is threatened (Singh et al., 2021). Having no idea what to expect when it comes to a health crisis or sickness might lead to fear of the unknown. Due to this, people tend to ruminate and picture various situations, which in turn produces dread (Jin, Li, Song, & Zhao, 2020; Taylor, 2021). Fear, rather than the epidemic itself, has been shown to influence buying behavior (Sim et al., 2020). To prepare for the unexpected, according to past statistics, consumer spending at retail outlets surged considerably in anticipation of imminent calamities (Wang & Na, 2020). However, Naeem (2021) claim that fear encourages people to make purchases because it provides them with a sense of security, comfort, and a momentary escape from their problems. As a result, people often buy things because they want to manage their bad feelings and not because they actually need them.

#### **2.5. Panic Buying and the Direct Effects of Perceived Scarcity**

It is defined as an individual's belief that a product is only available in restricted quantities, leading to the anticipation that it would become unavailable very soon owing to the COVID-19 pandemic. When customers perceive a product to be scarce, they feel threatened by their own freedom, and this generates a psychological reaction that increases their desire to purchase a substitute that may soon become unavailable (Barnes et al., 2021; Brandtner, Darbanian, Falatouri, & Udokwu, 2021; Prentice et al., 2020). The loss of freedom (i.e., restricted or decreased access to product) is said to impact the perception of scarcity (Prentice et al., 2020). Because of the apparent loss of freedom, the limited products and services become more appealing to people, leading to a greater desire to carry out the forbidden acts (i.e., panic buying the limited goods and services).

The impression of scarcity also affects consumers' willingness to take preventative measures in order to avoid getting COVID-19 and suffering its effects, since they perceive themselves to be unprotected and vulnerable (Jin et al., 2020). To reduce the frequency of their shopping excursions and the danger of getting COVID-19, they are more prone to panic purchase. It is because of this psychological reaction that consumers are more likely to panic purchase items that are seen as limited (Brandtner et al., 2021; Untaru & Han, 2021).

#### **2.6. Panic Buying and the Indirect Effects of Perceived Scarcity**

As a result of this study, panic buying is predicted to be indirectly influenced by perceived scarcity through expected regret. There are three components to regret: it's unpleasant and best avoided, it's different from other unwanted sensations and there's a counterfactual reasoning component (Billore & Anisimova, 2021). In order to

avert a negative consequence, anticipated regret is the consideration of regret when making a decision (Singh et al., 2021).

According to this scenario, a perceived scarcity event would be a demand-driven limited-quantity scarcity. Consequently, observed scarcity will likely raise perceived customer competition and perceived price instability for accessible product. Due to the increased sense of competition and price uncertainty, customers will be more likely to anticipate regret if they do not successfully outrun other consumers who are racing to stock up on the products in limited supply before they run out. For example, if people wait until the price jumps to buy things, they may regret it (Wang & Na, 2020).

### **2.7. Perceived Scarcity favorable effect**

Consumers expect regret if they do not make a panic purchase while they still have the chance (Hesham et al., 2021). This emotion is a result of a rejected alternative (i.e., panic buying). Anger is expressed when an alternative (panic buying) proves to be superior to what was intended (Sim et al., 2020). There's a good chance that customers regret paying a greater price when they buy something later compared to when they buy it early in the form of panic purchasing. Another possibility is that the consumer regretted not buying more quickly when given the option.

Because of perceived scarcity and in accordance with the prospect theory, which analyzes decision-making behaviors in uncertain conditions such as loss prevention, customers are more likely to experience regret than joy for not panic-buying. As a result of the uncertainty of the future, customers choose to take preventative action and panic purchase in order to avoid paying a higher price or facing a stockout scenario in the near future. Researchers have shown that anticipating regret increases intentions (Somani & Kumar, 2021) or strengthens the link between existing intentions and behaviors (Wang & Na, 2020). A third component, expected regret, shows a moderate to high connection with the behavioral intention to panic buy (Taylor, 2021). When presented with a dangerous perceived scarcity event, the desire to panic purchase is enhanced by expected regret for not panic purchasing, increasing the chance of real panic buying behavior.

### **3. Summary**

Identifying the causes of panic purchasing and understanding their interrelationships is the goal of this research project. According to this study, the factors of panic buying may be explained using the health belief model, perceived scarcity theory, and expected regret theory. We believe that both perceived scarcity and expected regret influence panic purchase. As a result of customers' impression of restricted stock availability, they anticipate regretting a missed opportunity to acquire items in limited quantity while they still can, which encourages panic purchasing. As a result, they feel compelled to make a hasty purchase. Additionally, the components of the health belief model, which offers five health belief model elements that contribute to the sense of scarcity, may be used to justify perceived scarcity. The firm's internet channels were used to conduct the survey. There were 508 valid data points collected in the poll. Health belief model factors (i.e., perceived vulnerability, perceived severity, result anticipation, signals to action and self-efficacy) are found to be mediated by

perceived scarcity in panic buying. Desperation purchasing is also influenced by perceived shortage and expected regret. Perceived scarcity has the biggest impact on panic purchasing, according to the total effect study. Predicted regret and result expectations are the next three elements, with perceived vulnerability, self-efficacy, and perceived severity being the least influential.

### **3.1 Theoretical Contributions**

A major contribution to academic research has been made by this article. As a first step, the paper tackles a gap in the research on panic purchasing by using and modifying three theories, namely the health belief model theory, perceived scarcity theory, and expected regret theory, in order to identify and evaluate the variables impacting panic buying behavior. The existing theoretical study on panic buying is extremely limited at this time. A majority of studies use the stimulus-organism response model (Laato, Islam, Farooq, & Dhir, 2020), the protective action-decision-model (Nakayachi, Ozaki, Shibata, & Yokoi, 2020), the competitive arousal model (Davis, Gustafsson, Callow, & Woodman, 2020), or its expansion by including concepts such as fear or trust (Bäuerle et al., 2020; Degerman, Flinders, & Johnson, 2020) and flocking behavior (Ang, Wei, & Arli, 2021). As a follow-up to the work of (Ang et al., 2021; Naeem, 2021; Somani & Kumar, 2021), this research study presents an alternate examination of the factors that contribute to panic purchasing. So, for example, (Taylor, 2021) combined perceived scarcity and expected regret based on competitive hedonic incentives, while (Prentice et al., 2020) synthesized a model based on perceived danger and anxiety, coping strategies, and social psychological variables.

These theories, such as the health belief model, have been studied and used in this work, despite certain overlaps in their concepts. Health belief model, perceived scarcity and expected regret are all assumptions that draw on different paradigms, such as psychology, decision-making and abundance/scarcity research in order to provide a complete analysis on the causes of panic purchasing. It also contributes to current research by identifying, proposing, and operationalizing the different drivers of panic purchasing, such as perceived vulnerability, perceived severity, result expectations, signals to action, and self-efficacy. A significant portion of the panic purchasing variance is due to these reasons (55.2 percent). Thus, a combination of ideas has a higher explanatory power than a single hypothesis, as demonstrated in studies of panic purchasing. It appears that these ideas work together to explain panic buying, which is a significant finding.

In spite of this, it's crucial to highlight that each theory's adequacy in describing panic purchasing differs from one another. Analysis of overall impacts shows that health belief model hypothesis explains the most. As a second option, there is the perceived scarcity idea. In addition, this article provides a deeper nomological understanding of the connections among the variables driving panic purchasing in the financial market. Consumers' perceived vulnerability, perceived severity, outcome expectations, signals to action, and self-efficacy are all variables that influence their decision to panic purchase, according to the study's findings. Fear of running out and regret are also factors that contribute to panic buying. Consumers' decision-making process begins with the appraisal of their sense of scarcity, which leads to the



expectation of regret. As a result, the impression of shortage leads to panic buying. The same study by Brandtner et al., (2021) also found that signals to action, provided by a variety of information sources, can affect customers' purchasing decisions. In addition, this study contributes to the quantification or operationalization of the notions in question. Health belief model, perceived scarcity theory, and expected regret theory components were synthesized from research articles on the pandemic to guarantee their suitability in the setting of panic buying. This article argues that a consumer's ability to predict remorse must be based on something. Therefore, if customers view a product as rare, they will acquire a sense of regret. When consumers analyze health belief model components including perceived susceptibility and severity as well as result expectations and cues to action, perceived scarcity is influenced.

### **3.2. Limitations and Recommendations for Policy Implications**

There are few key constraints to consider in this study article. Firstly, future studies should investigate empirically the causes of panic buying in Malaysia. Secondly Malaysia, which is largely dependent on commerce, the perception of shortage may be more pronounced. In this way, customers are more likely to perceive scarcity and anticipate regret if they don't make a hasty purchase while they can. Consequently, future studies might assess the generalizability of the study model by comparing it to other scenarios. Several recommendations are made for policymakers to control perceived shortages and prevent panic purchasing in this article. Plunging into a frenzy of impulse purchases has a number of negative effects on many stakeholders, including food manufacturers and distributors as well as retail shop management and the general public. In order to properly control panic purchasing, relevant stakeholders need to grasp the necessity of managing customers' perceptions of scarcity. After that, reducing the consumer's impression of scarcity would be the next objective. It's possible for the government to set limits on the quantity of vital goods that a single customer may buy, relieving the strain on products in short supply. To avoid empty shelves from occurring, retail businesses should increase the frequency of replenishing shelves. They can also prioritize disadvantaged groups in society so that their perceived susceptibility to contracting COVID19 is reduced. Due to their impression of scarcity, panic purchasing is commonly performed by consumers who fear stockouts, therefore lowering scarcity perception would also diminish panic buying behavior. Accordingly, governments might invest in marketing initiatives that educate consumers on the real preparedness level of existing national stocks in order to convince them that the degree of scarcity is not nearly as great as they first thought it was. As a further step, governments and store owners might explore focusing on other variables such as result expectation and expected regret. Retailers should stock their shelves with goods that have a shorter expiration date so that panic buying will be less beneficial owing to the earlier expiration of food items. To avoid stockouts and the impression of bare shelves, retailers can stock shelves more often, but in lesser numbers each time. Next, policymakers and retailers might focus on additional characteristics, such as result expectancy, expected regret, perceived vulnerability, self-efficacy, and perceived severity, in order of decreasing significance. Because of the early expiration of food products, store owners can fill their shelves with things having a more imminent expiration date, reducing the potential advantage of panic buying. A community leader, a close friend or a family member might dissuade and criticize the socially irresponsible



behavior of panic purchasing since it robs others in the community of items with limited supply.

Redirecting the consumer's attention away from panic shopping and toward more productive and successful preparatory methods might also minimize expected regret. Politicians can educate the public on accurate and effective ways to prepare for COVID-19 such as maintaining physical (i.e., doing regular exercise, getting enough sleep), mental (meditation to manage stress and anxiety), and emotional (i.e. checking in with friends and family) well-being instead of panic buying. Finally, employers can reassure their employees that their employment will not be affected if they contract COVID-19; family and friends can regularly check in on each other to provide emotional assurance and support, and individuals can remind themselves that the healthcare system is robust and the mortality rate is less than 1 percent if they ever contract COVID-19; Individuals perceive COVID-19 as less severe, which decreases their perception of scarcity, leading to a reduction in panic buying. Therefore, this paper acknowledges the possible influence of varied occupation requirements and flexibility on the panic purchasing behavior of consumers and admits that additional research may be done to discover the link between consumers' type of job and panic buying behavior.