



Consumer Panic Buying in the COVID-19 Pandemic Era

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ABSTRACT

Panic buying has become popular in many countries as a result of the recent COVID-19 pandemic. Therefore, this study aims to categorize themes or concepts related to panic buying studies. Through descriptive analysis and the assistance of Nvivo-12 software, 96 Scopus indexed paper articles, published by major publishers such as Emerald, MDPI, Sage, Science Direct, Springer, Taylor and Francis, were obtained and can be categorized into 4 groups. Furthermore, they are also related to dominant themes such as consumption displacement, dear of the known, social influence, perceived arousal, obsessive buying, perceptions, coping behavior, social media, scarcity messages, impulsive buying. The significance of this research is the discovery of the panic buying study concept; therefore, it can assist in the development of a conceptual framework in future studies. While the limitation of this study is that the articles reviewed are only obtained from the Scopus Database, therefore, they do not have comparable data. Consequently, further research needs to use a comparative analysis approach involving the Scopus database and others

Keywords: COVID-19, consumer, panic buying

INTRODUCTION

Consumer spending in the hospitality industry has plummeted as a result of the lockdown (Hall et al., 2020). The spread of the COVID-19 pandemic has in a number of large-scale panic buying (Li et al., 2020). Panic buying is motivated by fear or anxiety, as well as social impact, which are less discussed by advertisers because these incidents occur in gaps and people's wisdom appears to come with experience. Despite the absence of an imminent shortage, a crazy rush of general staples was observed in retail stores in the current scenario of coronavirus disease 2019 (COVID-19) (Yap & Chen, 2020). Many psychologists, such as Paul Marsden, agree that panic buying is justified because it satisfies three basic needs: the need to feel in control of your decisions, the need to give support to families, and the need to demonstrate that you are a smart

shopper in comparison to others. People get information from a variety of sources during a pandemic, so their own instances are overruled (Kaur & Malik, 2020).

This research examines the effect of consumers' social learning (SL) actions on their buying decisions when there is a chance of supply disruption, as well as how retailers can account for this and refine their inventory ordering strategy (R Zheng et al., 2021). Nonperishable food sales in Germany skyrocketed when the coronavirus pandemic broke out. The media was overwhelmed with reports of hoarding and panic buying (Lehberger et al., 2021). The increased prevalence of the purchasing of utilitarian products - referred to in the media as "panic buying" - was one area of consumer behavior that caught retailers and supply chains off guard during the early stages of the COVID-19 pandemic (Barnes et al., 2021). The global panic buying response to the COVID-19 pandemic has been authentic, a form of herd behavior in which customers purchase an unusually large amount of goods due to a perception of scarcity (Chua et al., 2021). Almost all European countries went into lockdown after the World Health Organization (WHO) announced the COVID-19 pandemic on March 11, 2020. This situation in abrupt changes on many levels, changing how people worked, bought, studied, and even interacted (Alexa et al., 2021)

Announcements of stimulus had a smaller effect, and travel restrictions do not seem to be causing consumer anxiety (Keane & Neal, 2021). Regardless, the omission of surfing from UN agency studies, conferences, and research on the "blue economy," which conceptualizes and approximates the touristic importance of aquatic ecosystems, is an oversight that must be addressed, particularly because surfers are more likely than many other segments to begin traveling when international borders re-open for tourism (Mach & Ponting, 2021). When the proportion of panic buying customers in the first batch (which we describe as the initial panic intensity) is moderate, panic buying and SL behaviors will benefit both the retailer and society. SL, on the other hand, will damage the retailer's profit and overall social welfare if the initial panic rate is very low or very high (R Zheng et al., 2021)

The experiments were conducted to better understand the timing effect and determine whether there is a connection between timed government actions and consumer behavior. The results show that there is a link between the timing of government actions and panic buying (Prentice et al., 2020)

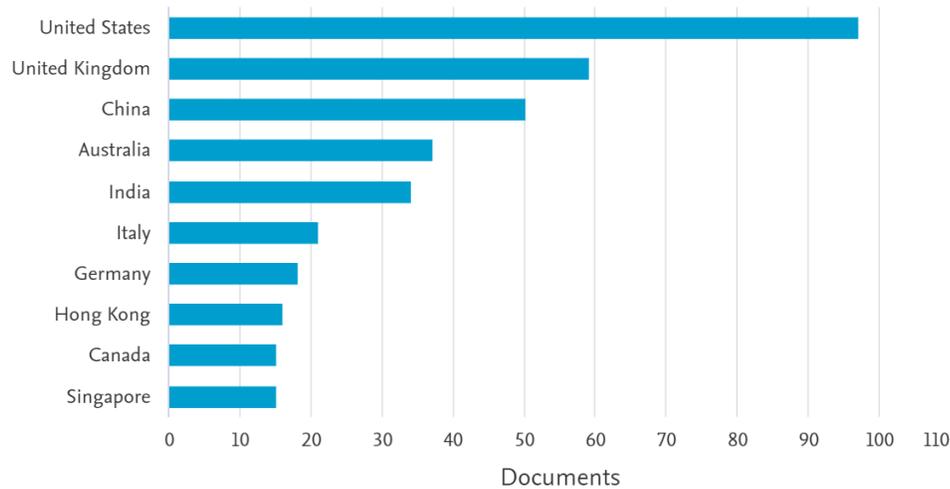


Figure 1. Research Panic Buying

No one has yet researched panic buying in Indonesia (By Scopus, 2021), covid-19 is a disease that changes people's healthy behavior. We research this study because the service criterion (inseparability) the buyer must interact with the service provider where a pandemic situation must pay attention to the prokes. In the spread of COVID-19, this sector is the sector most affected. Research Problem this paper aims to build a panic buying model in the conditions of the Covid-19 pandemic. The results of previous research indicate that panic buying is influenced by many factors, the biggest factor being the presence of covid-19, pandemic, human, consumer behavior, consumer attitude, anxiety, and fear. The research problem in this study is whether consumer panic buying in Indonesia is also influenced by factors of consumer behavior, consumer attitude.

METHODOLOGY

This study aims to examine various scientific articles discussing panic buying that have been published in leading international journals and based on study topics, frameworks, and previous research findings indexed in the Scopus database. The articles reviewed in this study went through stages (1) searching for articles and (2) topic mapping.

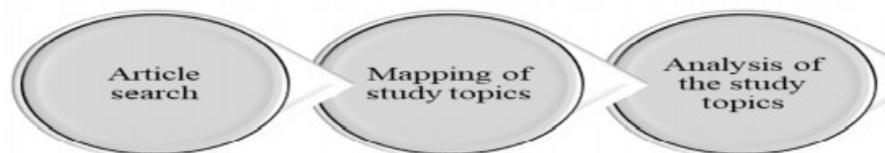


Figure 2. The Article Review Process

Since the aim of this study was to synthesize findings from existing studies on panic buying, a combination of review and meta-analysis approaches were used (Dwivedi et al. 2017; Raja and Dia 2006; Rana et al. 2015). To identify articles for this study, we began by looking for articles related to panic buying research. The first step of the research is to collect journal articles. The search resulted in 96 articles published between 2019 and 2021 on Scopus. The second step involves selecting articles that are directly relevant to this study from the initial batches mentioned above based on the following criteria: the empirical nature of the study; focus on panic buying.

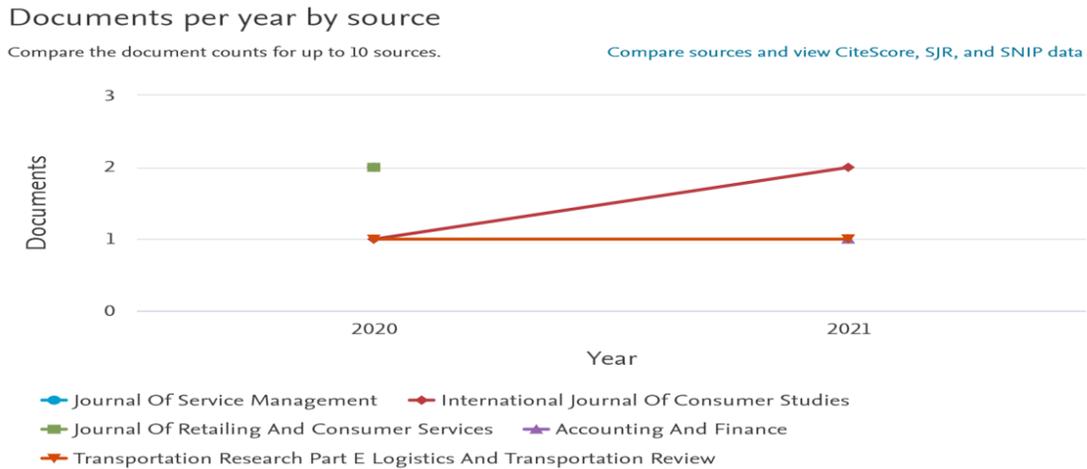


Figure 3. Articles Based on the Theme of Panic Buying

The mapping stage in this study was carried out through the following process - first, the full text of the article was imported into the VOSviewer and NVivo 12 plus software. This process was carried out to obtain clusters of data, and to visualize a network of study themes. Meanwhile, NVivo 12 plus software is used to input study topics, the relationship between study themes, and their mapping, based on the focus of each article analyzed. Second, articles are managed at NVivo 12 plus Software, by classifying them by author, year, journal, and publisher name. Furthermore, this classification is carried out using the NVivo 12 plus database import feature.

RESULT AND DISCUSSIONS

In this section, concepts were explained in several visualizations related to the theme of this study, and 96 articles. Furthermore, the results of their reviews with VOSviewer revealed that there were four concept clusters table 1. Picture 3 shows the names of the concepts which were derived from the cluster density display. Furthermore, the color code used for each of them was used to view a list of the concepts that stand out from each cluster. The aim is to identify as many themes as possible that are often discussed in previous studies, and allow them to be used in future studies. Taking a look at picture 3, it shows the density of the clusters which are distinguished by a different color from each cluster.

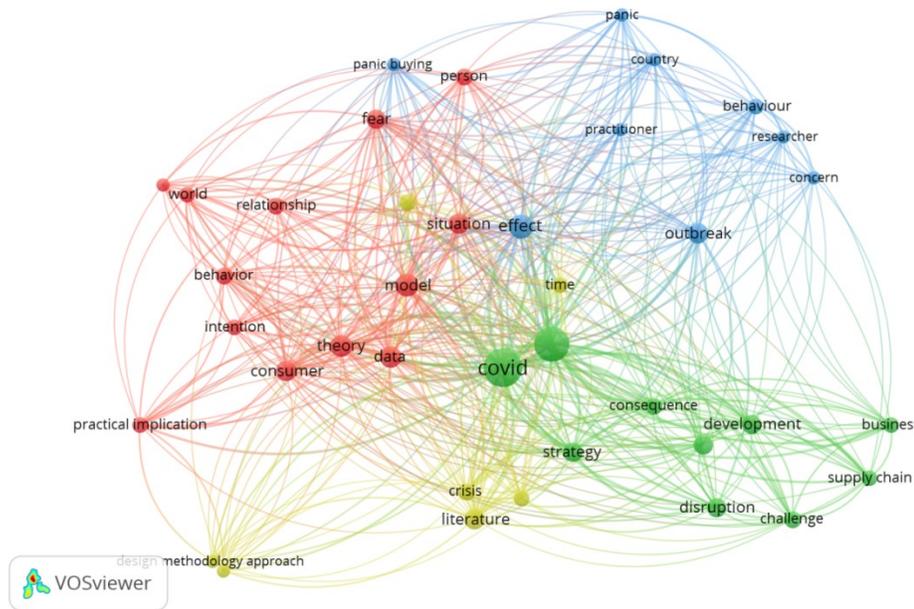


Figure 3. Relation of Themes in Panic Buying

Identification in the form of a mapping in Figure 1 can help researchers, especially new ones start their research with the very beginning. When they find a topic of interest in a certain area, they will find it curious, they can read articles related to that topic with the help of this study. In Cluster 1, the related concept files are Behavior, consumer, fear, intention, while Cluster 2 emphasizes the concepts of business, challenge, and pandemic. In the case of Cluster 3, the concept of effect, panic, panic buying and for Cluster 4, implication, literature, time, this grouping will help to analyze what concepts are related. For example, when you become a researcher in choosing cluster 3, the starting point that needs to be used as body literature is the concept of panic buying. Furthermore, researchers can also search related literature in the reference manager.

Table 1. Themes clustering in panic buying

Cluster	Concept Name	Total
Cluster 1	Behavior, consumer, fear, intention, model, person, practical implication, relationship, situation, theory, world	12
Cluster 2	Business, challenge, consequences, covid, development, disruption, pandemic, strategy, supply chain, technology	10
Cluster 3	Behavior, concern, country, effects, outbreak, panic, panic buying, practitioner, researcher	9
Cluster 4	Design methodology approach, implication, literature, originality value, time	7

Cluster 1 is related to consumer behavior, so the relevant article will be used as a reference as written by (Hall et al., 2020) provides evidence of the shift in consumption based on the spatial and temporal patterns of consumer spending. Evidence of increased spending across several consumption categories confirms hoarding behavior. The hotel sector saw a sharp drop in consumer spending during the lockdown.

Cluster 2 is related to the COVID business, then the relevant article will be used as a reference as written by (Loxton et al., 2020) who explained that the new coronavirus pandemic (COVID-19) spread globally from its outbreak in China in early 2020, negatively impacting the economy and industry on a global scale. In line with the history of crises and shock events including the 2002-04 SARS outbreak, the 2011 Christchurch earthquake and 2017 Hurricane Irma, COVID-19 has had a significant impact on global economic conditions, causing significant economic downturns, corporate and industrial failures, and increased unemployment. Changes in discretionary consumer spending as defined by Maslow's Hierarchy of Needs, and changing consumer discretionary spending patterns (according to Maslow's theory). Analyzing the volume and time of consumers to date,

Cluster 3, the relevant article will be used as a reference as written by (Prentice et al., 2020) Given the COVID-19 outbreak in 2020, the relationship between government actions to combat the pandemic and its side effects. Panic buying has been identified as one of these side effects. Among the various models and actions taken by governments to deal with pandemics, policy-term interventions are generally undertaken by most countries. The influence of timing between government action and panic buying. Three studies have been conducted to understand the effects of time and identify the relationship between timed actions and consumer behavior.

Cluster 4, the relevant article will be used as a reference as written by (Islam et al., 2021). The global crisis of the COVID-19 pandemic has devastated the world's economy and health care, fueling much fear, panic and uncertainty among billions of people. As lockdowns are implemented in many places, panic buying has emerged as a reliable feature of the Outbreak Coronavirus. Therefore, consumer panic buying behavior is urgent to do during COVID-19 to get a better understanding of the phenomenon and provide managerial insights for policy makers and marketers.

The Dominant Theme in Panic Buying Studies

The Word Frequency Query explores the words that appear most frequently in the research data. Therefore, with this analysis tool, words which have the same meaning can be categorized in one group. Based on the results of data analysis sourced from 96 articles, the dominant theme was previously studied. Researchers are Panic buying Covid-19 Pandemic. Therefore, it can be interpreted that this is the overall focus of the research theme in this regard. This is further explained in (Figure 2), especially in bold words.

Panic purchasing is a socially unwelcomed herd behavior in which large amounts of everyday necessities and medical supplies are bought from stores, resulting in stock outs. Individuals or groups are hampered or prevented by the circumstances. Entry to products is denied to disadvantaged groups (e.g., the elderly or the poor), who are in greater need of them. Negative externalities are generated as a result of this. Furthermore, panic buying triggers further supply chain disturbances in the retail sector (Rui Zheng et al., 2021). The intermittent increase in customer demand, combined with road closures or traffic restrictions, creates problems in areas such as purchasing, replenishment, and delivery. As a result, stock outs are exacerbated, and consumer product prices are often increased.

Market decision-making has been further compounded by periods of government-enforced self-isolation for returning travelers or individuals who may have been exposed to the virus, as well as wider city- or country-wide periods of quarantine. People were largely confined to their homes as a result of social distancing (Danziger, 2020). As a result, as normal consumer movement, skills, and transactions became limited, and as global fear of infection grew, consumer behavior began to shift in ways that affected the timing, breadth, and volume of purchases, in addition to the traditional geographic presentation of purchases.

Furthermore, in our globalized world, where technological advances have extended traditional domestic news stories to international audiences, understanding the scope of the media's role in influencing changed consumer patterns of behavior and discretionary spending is becoming increasingly important, as the media has come to play a larger role in the promotion and intensification of consumer paternalism. We expect a rise in fear to change reasonable consumer behavior, as defined by contagion, which is defined as the spillover of effects such as fear and anxiety induced by an extreme negative event in one location as it moves to affect others. Increased international media communication and access are likely to amplify the impact of contagion. As a result, we expect the COVID-19 crisis to result in a rise in customer anxiety, as well as the wider ramifications of that fear and uncertainty in purchasing decisions (Kuruppu & Zoysa, 2020).

Mapping of the Theme of Panic Buying Studies

The results of the review of the 96 articles using the matrix framework feature and the NVivo 12 plus project map feature revealed that, in general, studies on the theme of panic buying are related to 10 main topics, namely local issues of the consumption displacement, fear of the unknown, social media. Scarcity messages, impulsive buying, perception, coping behavior, social influence, perceived arousal and obsessive buying.

Some of the models in question show Consumption displacement occurs when customers experience a change in the supply of products, services, and facilities to which they have become accustomed as a result of an external event. Case, has been recognized historically in households with no communicable diseases (Hall et al., 2020), but only to a limited extent in disasters and crises. We contend, however, that COVID-19 NPI measures that limit individual mobility and personal interaction (physical or social distancing) (Anderson et al., 2020).

Mood congruency may also explain the connection between fear and increased purchasing behavior. It is proposed that an individual's interpretation and judgment of tangential circumstances or events are negatively skewed while they are experiencing negative emotions or tension (Larson & Shin, 2018). Fear is amplified when it is raised. People's perceptions of the situation's danger and threat (Hutjens, 2014), prompting them to take drastic action in response

to a dramatic incident like a disease outbreak. As a result of the discussion in this article, panic buying can occur, which is viewed as a type of self-protective behavior to reduce risk.

Individuals' perceptions of a health problem, as well as other similar incidents or organizations that cause panic buying, are covered in this theme. Two main dimensions are highlighted in the analysis. They are (i) perceived threat and (ii) perceived scarcity, respectively. People engage in three different forms of preventive behavior in response to a health crisis, according to (Bish & Michie, 2010). They include disease prevention, avoidance, and management behaviors. Washing hands, wearing a mask, and cleaning surfaces are all examples of preventive behavior. Avoiding interaction with others in crowds, public transportation, or at work is an example of avoidant conduct. Taking medicine and getting clinical guidance are two ways to manage disease behavior. With the potential danger of a health epidemic, all of the behaviors associated with these three forms of behavior are likely to increase. To execute the behaviors that cause panic buying, more everyday needs or medical supplies would be needed. As a result, in circumstances where the perceived risk of contracting a disease is high, it is possible that an individual will engage in panic buying to reduce the risk of contracting the disease. Panic buying can be seen in this light as a self-protective mechanism that satisfies people's safety needs.

Expected regret is another hypothesis that connects perceived shortage with panic buying (Gupta & Gentry, 2019). A rejected choice causes this expected emotion. People might equate their actual decision to hoard with a forgone decision not to hoard during the initial disease outbreak, for example. If the rejected option turns out to be better than the actual outcome, regret will be felt, while joy will be felt if the actual outcome is better than the rejected option. According to previous research, when making decisions in unpredictable circumstances, these emotional effects are expected and considered. According to prospect theory, during a disease outbreak, people are more likely to regret rather than rejoice for not panic buying due to perceived shortage (Wang et al., 2019). As a result of the aforementioned factors, individuals may be motivated to participate in panic buying as a psychological reaction to perceived scarcity and the fear of regret.

Growing body of evidence indicates that stressors like fear of the unknown induce coping behavior. Panic buying can be seen in this light as a way to regain control of the situation and compensate for the psychological losses suffered by individuals (Ballantine et al., 2014). The power to manipulate outcomes in one's environment is referred to as control [36]. Humans have an inherent ability to regulate things, which plays a role in their survival (Zhang, 2010). Many circumstances, such as a health crisis, can make a person's sense of control over the environment skewed. As a result, the person will feel uncomfortable, prompting them to regain control. When the cause of pain is beyond control, compensatory control theory states that the person will seek to gain control over other domains. To summarize, panic buying can be thought of as a compensatory consumption behavior, implying that people purchase things to make up for deficits caused by perceived needs and desires that can only be satisfied indirectly (Koles et al., 2018). The deficit in this case refers to a lack of control over the situation, which can be offset by problem-solving techniques such as panic buying.

Self-fulfilling prophecy is the first form of social power. Knowledge is readily accessible in this digital age and can be easily disseminated to the masses via a variety of platforms (e.g., social networking, online news, radio, and chat applications). While these outlets can help the government or other health organizations provide information or guidance to the public in the event of a medical emergency, they can also be abused. Individuals may be influenced by misinformation and the dissemination of rumors, such as stock out cases, either by fear of losing

out or through confusion into panic buying (Frank & Schvaneveldt, 2016) . This reaction brings the once-false prophecy to fruition.

This section examines the factors that contribute to the spread of panic buying via social media. Social influence and social trust are the two most important considerations. In terms of public confidence in government, during a disease epidemic, the government is critical in providing relief and recovery, preserving order and control, and disseminating information to the public (Kang & Skidmore, 2018). The public's confidence in the government is essential because it ensures enforcement and a concerted and organized effort to monitor and control disease transmission (Drury, 2018). To summarize, individuals with a high degree of social confidence are more cooperative and considerate, not hoarding and exchanging scarce supplies with others. A high level of social mistrust, on the other hand, may cause people to behave individualistically, fearing that others will buy more than their share and leave none for others. This results in panic purchasing.

The studies was carried out in order to address specific research questions, such as how panic buying behavior evolved across social media during the Covid-19 pandemic. The study aims to establish a theory with the goal of understanding the social fearing effect of social media on stockpiling among UK consumers using an inductive reasoning approach. Consumers engage in stockpiling when costs are low, such as during discounted/promotional sales, according to the majority of current reports (Ching & Osborne, 2020). Consumers profit from, and are interested in, stockpiling, according to other reports, particularly when competition is high and businesses are forced to offer some promotional packages to boost sales (Chen, 2020). However, due to the emergence and growth of social media networks, there is a lack of evidence about how global risks (life-threatening virus) can evolve into a situation of customer panic buying. Businesses, government leaders, social celebrities, and the youth are all linked and active in the pursuit of shared goals.

Furthermore, several previous research used advertising scarcity messages as cues to control the environment while analyzing the effect of scarcity and arousal on consumer behavior. This research, on the other hand, creates a naturally triggered situation similar to people experiencing COVID-19-induced panic and anxiety in the real world. We theorize and evaluate the fundamental mechanism that exists from scarcity messages (LQS, LTS) to customer impulsive and obsessive purchasing by incorporating the heightened hysteria naturally induced by the pandemic rather than manipulating marketing stimuli.

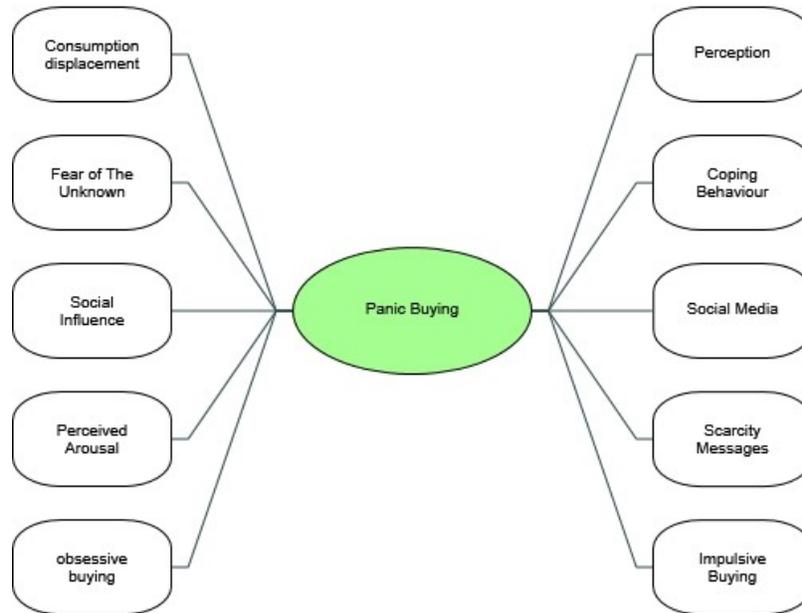


Figure 6. The Formulation of Panic Buying Model

CONCLUSION

This study has examined the existing state of research, summarized, categorized, and expanded current conceptual understandings of the psychological causes of panic buying. The review of the literature shows that the causes of panic buying can be categorized into four main themes: consumption displacement, dear of the known, social influence, perceived arousal, obsessive buying, perceptions, coping behavior, social media, scarcity messages, impulsive buying.

One of the most significant results of the current study is that social media use influences the relationship between scarcity notifications and people's arousal levels. The use of social media has increased dramatically during COVID-19 lockdowns. People are relying on social media for information, communication, and connection more than ever before. In certain cases, social media amplifies the panic-buying phenomenon that occurs during a pandemic. People just learned and read about emergencies indirectly before social media.

Scarcity messages are positively linked to perceived arousal, which contributes to impulsive and obsessive purchasing, according to our findings. As a result, policymakers and the media can be successful in reducing panic buying and hoarding by communicating and assuring the public that panic buying is triggered by fear rather than a real food shortage. Multimedia campaigns, which include social media, television, print media, and radio, will be the most effective. The main message should be clear and directed at reducing consumers' unreasonable fear.

This research also has implications for health practitioners, policymakers, and retailers in terms of adopting effective policies and strategies to reduce panic buying by better understanding the psychology and motivations of panic buying. Individuals' perceptions of commodity shortages can be minimized, for example, by ensuring clear assurance and communications from the government, media, and retailers that stocks are accessible. Empty shelves and long lines are examples of shortage signs that could be mitigated by encouraging online delivery and

introducing fast replenishment. Stock outs could be avoided by enacting reasonable sanctions and procurement quotas on essentials, which would increase the public's understanding of commodity shortages. As a result, the effect of information cascade will be reduced. To minimize confusion and fear, as well as increase social confidence, any rumor or disinformation should be immediately stopped and explained by the media or the government. The media or the government may also emphasize the negative effects of impulse buying in order to convince the public to be more charitable by making responsible purchases. The pandemic has triggered fear and uncertainty in people all over the world. Businesses all over the world are facing similar difficulties.

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