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Understanding Consumer Buying Behaviour in Times of Panic: Development of a Relationship Framework of Influencing Factors

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Purpose

With multiple global events causing major supply chain disruptions and turbulence, the availability and ease of access to certain products and services has been greatly affected. This in turn is seen to have a direct impact on the perceived scarcity of these products and services, which can result in an emotional buying decision. Accordingly, this research investigates changes regarding consumer buying behaviour in times of panic. The study aims to identify the main factors affecting panic buying decisions and develop a conceptual framework that models the relationship between the factors.

Research Approach/Methodology

A critical review of relevant literature is conducted that investigates the causal factors that influence consumer buying behaviour and patterns in times of crisis. The review focused on consumer buying behaviour literature that considered changes to demand patterns caused by perceived scarcity and/or emotion during times with evident supply chain disruption. Special focus was given to articles that covered or referred to the Covid-19 pandemic.

Findings and Originality

The study identified four main factors, namely: governmental policies, commercial policies, social influence, and social norm, that have a direct impact on emotions and perceived scarcity. The study defines each of these factors and analyses the strength of each of these factors as a causal influence on the consumers' buying decision. A conceptual model is developed that integrates all four factors linked to perceived scarcity and emotions to panic buying.

Research Impact

The research builds on consumer buying behaviour literature and gives special focus to panic buying. A conceptual framework is presented that identified and developed a relationship between the main factors affecting consumer buying behaviour in times of panic. The model defines a cause-and-effect relationship that offers a better understanding of changes in demand patterns in times of supply chain disruption and turbulence.

Practical Impact

The conceptual model can be used by relevant departments in public and/or private sectors to better understand the effect of their policies on consumer buying behaviour. In turn this can assist in the development of fit for purpose policies that would mitigate potential negative effects of panic buying.

Key Words

Consumer behaviour, Panic buying, SC disruption, Perceived scarcity, Covid-19, Risk mitigation

Introduction

Global events over the past number of years have led to major supply chain disruptions. From the Russia-Ukraine war to vessels getting stuck in the Suez Canal to abnormal weather patterns, and above all, the pandemic. The impact of these events on supply chains can often be seen in several risks and uncertainties from the supply side, but also from the demand side, such as product shortages, longer and unpredictable lead times, changes in consumer behaviour and demand patterns (Ozdemir, et al., 2022).

The Covid-19 pandemic, when studied as a disruption, is quite unique in nature in terms of the reach of its effect, where more than 90 countries were impacted (Arafat, et al., 2021). Also, in terms of the global response where entire cities were put into lockdown, shut down of airports and seaports, and restrictions imposed on international travel. This not only created scarcity in terms of the availability of basic products and services, but also created scarcity in terms of the time when these products and services could be purchased or accessed in person.

It is well documented in the literature that consumer behaviour as a response to supply chain disruptions is expressed in the form of panic buying (Yuen, et al., 2020). Another commonly seen behaviour in times of crises is a shift in spend patterns from luxury items that would be considered wants, to more basic items, i.e., needs. Accordingly, the FMCG sector, which covers many of these basic needs, is significantly affected by these disruptions (Li, et al., 2021).

Panic buying is usually defined as an emotional decision, with specific emotions, notably anxiety and fear, acting as a response to the perceived scarcity and/or unaffordability of the product or service (Arafat, et al., 2021; Li, et al., 2021). The resulting effect is an inflated cycle of amplified demand leading to product hoarding and panic buying, which can in turn lead to the actual shortage or limit the availability of products or services, feeding into the perceived scarcity and increasing the overall fear, anxiety, and emotional response of needing to buy more.



Figure 1: The Panic Buying Cycle

This paper therefore considers the Covid-19 pandemic as a unique learning opportunity to better understand consumer behaviour in times of panic. The paper aims to critically examine and identify the causal factors that influenced consumer buying behaviour and changing demand patterns during the pandemic, specifically within the FMCG sector. The paper will then develop a conceptual framework that models the relationship between the factors with a view to better understand how supply chains can better address panic buying.

Literature Review

A critical review was conducted that focused on consumer behaviour in times of crises, specifically within the FMCG sector (Grant and Booth, 2009). The main keywords used in the literature search were (consumer behaviour, supply chain disruptions, FMCG, Covid-19). There was no specific database selected for the search and a snowball method was applied to find relevant articles. This is one of the limitations of this study, where the model and findings could be further expanded through the use of a more systematic or structured approach to developing the literature review.

With the exception of a number of papers that explained the theory of panic buying and consumer behaviour, the majority of the papers included in the review did specifically refer to the Covid-19 pandemic. The purpose of the review was to critically examine previous literature with a view to identifying the main factors affecting panic buying.

Table 1 below provides a summary of the findings. The left most column introduces the main factor, while the middle column provides a justification as to how that factor affects or leads to panic buying.

Table 1: Factors Affecting Panic Buying

Government influence	Government's product regulation tools during Covid-19.	Sheu and Kuo, (2020)
	Lockdown and curfews imposed limiting access to products and services	
	The government's peer sanctions against hoarding during Covid-19.	
	Economic instruments used by the government such as subsidies or donations in regulating products during Covid-19.	
Commercial impact	During Covid-19, shops introduced purchase quotas limiting the number of units any one consumer could purchase.	Prentice et al., (2021)
	Increase in the prices of products in the shops during covid-19.	
	Shorter allotted shopping times to control the number of shoppers at any given time.	

Social influence	Media portrays public fears of supply shortages during covid-19 over product price fluctuations.	Sheu and Kuo, (2020)
	The media portrayed the public's frequent panic buying of products during covid-19.	
	The media further focused on shortages and missing commodities feeding consumer's perceived scarcity.	
Social norms	Colleagues, neighbours, family members, classmates' behaviour of panic buying created a feeling of increased perception of scarcity, fear and anxiety.	Gong et al.(2019)

Government influence, commercial impact, social influence and social norms could all be seen to have a direct impact on both consumers' emotions in terms of fear and anxiety, and also on consumers' perceived scarcity of products in terms of the limits on quantity they can purchase and time when they can physically access the stores. Furthermore, it can be seen that perceived scarcity in itself also had an impact on increased fear and anxiety. However, both emotions and the perception of scarcity can be identified within the literature as the level 1 factors behind panic buying, with the four other factors categorised as level 2 factors. Level 1 factors can also be considered internal factors that are subjective, and the degree of the effect can be different from one individual to another. Level 2 factors are external factors that can either have a positive or negative effect on level 1 and therefore either lead to an increase or decrease in panic buying. This relationship is used as the foundation for developing the conceptual framework presented in Figure 1.

Conceptual Framework

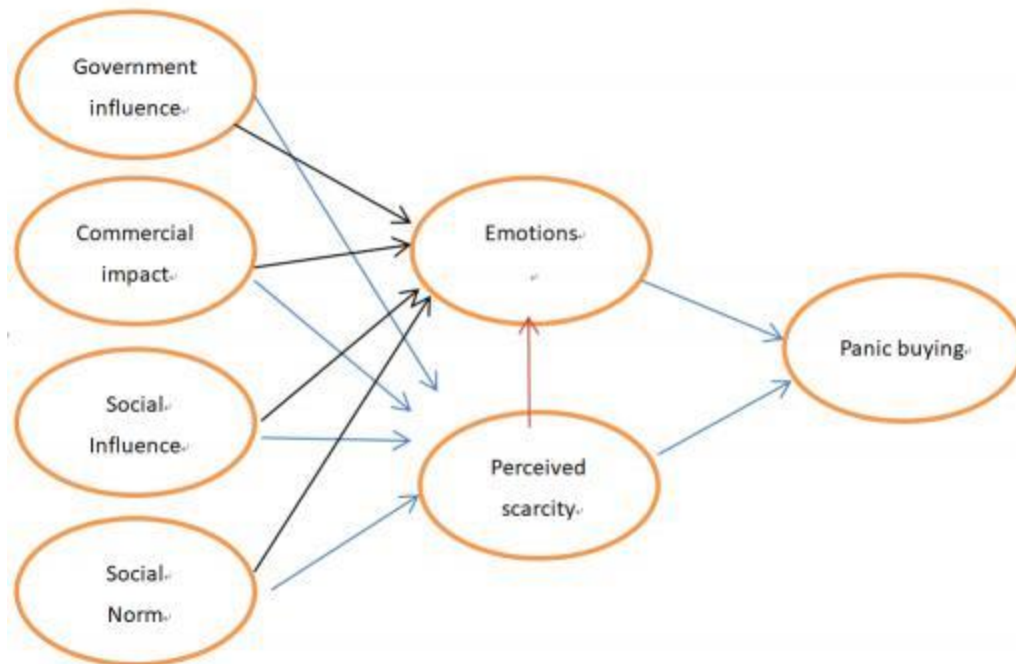


Figure 1: Conceptual relationship framework for panic buying

The framework was modeled on the stimulus-organism-response (SOR) model (Mehrabian and Russel, 1974). The model builds a relationship between stimuli, which are the four main identified external factors; to an organism, which for this study is the cognition and emotion of people in terms of fear, anxiety, and perceived scarcity; to a response, which for this study is that act of panic buying.

Government Influence on Emotions and Perceived Scarcity

Depending on the stage of each country in the face of the epidemic, governments in each country have adopted different policies and instruments. Some see it as an important channel to control the spread of the epidemic; others see it as a means to instill social trust in the population (Yuen, Wang, Ma and Li, 2020). During an outbreak, the government has a crucial role to play in providing relief, recovery, maintaining order and providing services to the population. The public's trust towards the government influences its legitimacy and compliance and demonstrates the government's willingness to do all it can to manage and control the spread of the disease (Yuen, Wang, Ma and Li, 2020). Trust plays a key role as a moderator of public sentiment. With trust, people's emotions can be effectively controlled, and the credibility of government communication can be increased. A high level of government trust suggests that people will adhere strictly to government preparedness measures and that individuals will behave more collegially and considerately, hoarding only enough supplies to share with their families. Low levels of government trust, however, can lead to a prevalence of individualism, fearing that others will buy more than their share, or hoarding too much for them and leaving nothing for others, which creates a change in perception and has a negative impact on mood. A lack of trust, on the other hand, fosters restlessness in society, thus increasing the fear and anxiety of people. In order to gain the trust of the people, the governments in general have adopted various strategies to provide relief and recovery to maintain economic order. Meanwhile, as the epidemic worsened, governments also increased restrictions on people travelling. The bans included no more than five people at a party event and social distances. When travelling outside the country, a medical testing or quarantine is needed while people travelling abroad for pleasure trips. This change has caused residents to feel a health crisis, which has led to feelings of panic and anxiety. In addition to this, the government's adoption of precautionary measures based on a blockade may interrupt the supply of essential goods depending on the severity of the epidemic, which increases the risk of people's perception of supply disruption and stimulates the internal perception of scarcity.

Commercial Influence on Emotions and Perceived Scarcity

In addition to safeguards from the government, major manufacturers and retailers have responded with counter-hoarding or panic measures (Prentice et al., 2021). In Australia, for example, large supermarkets such as Aldi and Woolworth's will inform buyers in advance that they will ensure adequate supplies of essential goods during the epidemic. At the same time, some supermarkets may intervene in panic buying by raising prices or limiting the number of essential items that can be purchased. Offline retail supermarkets in China have also ensured adequate supplies internally and have been ordering remotely for orders placed on social chat software such as WeChat during the epidemic lockdown. Online shopping e-commerce platforms such as JD.com have maintained non-contact delivery for

consumers. Retail shops in Vietnam have also urged consumers not to stock up on essential items such as food in large quantities, indicating that adequate supplies of consumer goods will be ensured even during the blockade. The supply guarantee by major retailers and manufacturers stabilizes consumer purchasing sentiment and reduces perceived scarcity.

Social Influence on Emotions and Perceived Scarcity

Social influence has been categorized by Smith, Louis and Schultz (2011) into a number of different forms and is mainly felt in processes such as conformity, pressure, leadership, persuasion and social power change. Social influence can be divided into non-coercive and coercive influences, where the non-coercive includes information exchange or advice, while the coercive is reflected in how an individual's behavior is constrained by a third party (Yuen, Tan, Wong and Wang, 2022). The social influences studied in this paper are mostly in the form of non-coercive social media. With today's technology, social media has enabled the sharing of information on a global scale. With the use of smartphones, computers and other electronic devices, people's perception of information is also time sensitive (Hornmoen and Backholm. 2018). With social influence there is also an expected level of trust depending on the source of the information linked to whether it is from credible news sources or through unstructured social media platforms which feeds more into the social norms aspect. The more trusted the source of the information is the higher impact it will have on consumers' emotions and perceived scarcity. This also connects to government influence in certain cases where there is a heavy presence in state owned media. The level of trust consumers' have in the government will be a factor in their trust of information being shared across state owned media in comparison to private owned media.

Social Norms Influence on Emotions and Perceived Scarcity

As defined by Cialdini and Goldstein (2004), social norms are rules and standards that are commonly accepted by members of a social group and are codes of conduct that are not bound by laws or regulations. In order to conform to this group, people's behaviour is often determined by the opinions, attitudes or beliefs of the larger group. Herd mentality is the tendency to change behaviour in response to pressure. Single factor analysis found that the results of the performance of the degree of influence by those around them were very clear. The herd mentality makes the individual's behaviour and thoughts converge with the group, making the individual also lack independent thinking. Panic buying is a misperception of social norms that people have, and in realising that peers engage in panic buying practices, the individual's decision receives a normative misperception and blind following occurs. Individuals tend to conform to social norms shared by their friends and colleagues in order to seek a sense of belonging and social identity, the behaviours and perceptions of other members of society can influence them. So when people do not have enough information to assess the actual situation, they learn from the behaviour of others and use it as a source of information. Family and friends are part of the social network and are part of the first thing that consumers consider when making decisions in the absence of relevant information. In this study, social norms are defined as the degree of acceptance of hoarding by members of the community around the individual. Under the influence of covid- 19, a new social norm has emerged, namely hoarding purchases (Li et al., 2021). This behavioral change can

be interpreted as a perceived scarcity of products in short supply and rising prices, thus conveying the message that household goods are not available to support normal life. Ultimately, members of society become more accepting of hoarding, and people's perception of product scarcity increases, resulting in anxiety and concern about not having access to products.

Conclusion and Recommendations

The main purpose of this paper has been to take the Covid-19 pandemic as a learning opportunity to identify the main factors that impacted consumer panic buying behaviour during the crisis. The paper has presented a conceptual framework model based on the SOR framework that has presented four external factors (identified as the stimulus) and two internal factors (identified as the organism) and developed the relationships across the factors to better explain the response, which is the panic buying behaviour.

This paper presented panic buying as a consumer behaviour in the form of a loop where one end of the loop feeds into the other causing the effects from emotions and perceived scarcity to be further amplified and leading to more panic buying. Therefore, a deeper understanding of the factors and interrelationships between the factors can be used to better shape how supply chains engage with consumers and other stakeholders in developing policies on communication and information sharing with the wider populace to mitigate the effects of panic buying as a consumer response to crises.

Through the conceptual framework presented different governmental policies and how different countries responded to the pandemic can be studied in terms of the effectiveness of these policies in reducing overall fear, anxiety, and perceived scarcity.

The model also presents an opportunity to measure the correlation between the different factors and their overall effect on panic buying. This can be used to better direct efforts in managing and mitigating the effects of panic buying.

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