

## What is Enough? The Impact of the Russia-Ukraine Crisis on Consumers' Panic-Buying Behaviour

Cherouk Amr Yassin <sup>a,\*</sup>

<sup>a</sup> College of Management and Technology, Arab Academy For Science Technology and Maritime Transport, Smart Village Campus, Egypt

\* *Corresponding author*: Cherouk.amr@aast.edu

### Abstract

During the war crisis, consumers tended to panic buy products out of fear of publicising news that products would be scarce. Additionally, during the same period, customers' perceptions of what to buy and what not to buy are critical and can lead to a demand-side risk. This study aims to understand how non-coercive influence during the crisis can motivate consumers' perceived scarcity, resulting in panic buying behaviour that influences demand side risk. The proposed research model is tested using Structural Equation Modeling. The findings demonstrated that non-coercive influence during crises significantly impacts perceived scarcity. However, perceived scarcity had no statistically significant impact on panic buying behaviour, as evidenced by the rejection of the study's second hypothesis. Managers can avoid demand-side risk and improve customer satisfaction by considering theoretical and practical aspects. Finally, this research is not without limitations because this study was done at the beginning of the ongoing Russia-Ukraine conflict, so it may not fully reflect the situation's actual conclusion. Also, the research has been done without considering the cultural factors' effect on consumers. However, cultural behaviour measurements in the investigated country should be considered in future research.

### Keywords

Consumer behaviour; Russia-Ukraine Crisis; Demand-side risk; Non-coercive influence; Panic Buying; Perceived scarcity.

### Article history

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## **1. Introduction**

Consumer behaviour, which changes due to economic insecurity, is the foundation that must be followed to comprehend the marketing process during difficult times. Consumers are often the motivating factor behind the market competition, growth, and economic integration. Wars, globalisation, pandemics, currency fluctuations, and financial crises have put supply chain networks at risk, resulting in significant price increases and affecting products' availability (Tang, 2006a; Tang, 2006b; Christopher and Holweg, 2011). The current downturn began after governments and people spent two years adjusting to the COVID-19 pandemic (Janssen and Voort, 2020; Magson et al., 2021; Men and Tarasuk, 2021; Ozili and Arun, 2020; Zhu et al., 2020). At the same time, several countries are dealing with wars and major weather disasters, such as the East African drought, which has lasted since 2020.

The recent crisis resulting from the conflict between Russia and Ukraine has tremendously influenced the global economy, primarily through global supply chain disruption (Ozili, 2022). Wheat supply disruption accounts for 30% of global wheat exports. After Russia invaded Ukraine on February 24, 2022, the risk of a global food disaster has increased, as has global transportation of raw materials and finished goods (Paul and Chowdhury, 2021). The world has to meet the UN Sustainable Development Goals of eradicating hunger and ensuring essential product security by 2030. In that case, governments must take action, and they cannot, however, do so unless they carefully examine how these crises have affected consumer behaviour.

Furthermore, social interactions can significantly impact our perception of a crisis's weight and scope, especially in today's technologically advanced society, where information spreads quickly (Nabavi, 2012). As more people become aware of panic buying, they may imitate it for a lot of reasons, such as fear of regret or just adhering to the crowd. Stress, anxiety, despair, tension, and anger all had an impact on consumer behaviour (Roos and Friman, 2008).

This paper contributes to the consumer behaviour literature by investigating the changes in purchasing behaviour caused by war crises based on some studies used in the research literature, including Achrol and Stern (1988), Bergadaa (1990), Häubl and Trifts (2000), and Ang et al. (2001). This study investigates whether the new crisis-affected consumers' purchasing behaviour and demand-side risk, as well as how non-coercive factors influence people's perceptions of shortages in times of need. The primary focus of the research is non-coercive social impact. However, there is a gap in the literature concerning the impact of the war on modern society and the likely impact on other countries, which this paper seeks to fill. The remainder of the paper is organised as follows. The second section includes a review of the literature as well as the development of hypotheses. The third section explains the study methods, while the fourth section examines the findings. Section five concludes and lays down research implications.

## **2. Literature Review and Hypotheses Development**

### **2.1. Crises and Consumer Behavior**

Consumer behaviour is a crucial and ongoing process of choosing, acquiring, utilising, assessing, and discarding goods and services (Valaskova et al., 2015). It has been known that significant forces and events that are present in the buyer's surroundings have a substantial impact on decision-making (Achrol and Stern, 1988; Häubl and Trifts, 2000). Moreover, internal and external aspects that describe the context in which an individual's behaviour happens impact consumer behaviour (Bergadaa, 1990). The economic crisis seriously affects consumer behaviour (Hermann and Fleckner, 2012); therefore, people reconsider their previous patterns and brand loyalties during difficult times.

The financial crisis is an external factor that has significantly impacted consumer behaviour. Most research shows that the crisis has substantially influenced consumers' buying habits (Yuen et al., 2022) and that consumer behaviour may change in reaction to an unanticipated catastrophic occurrence. Yuen et al. (2022) define behavioural reaction as the action of "buying enormous quantities of a specific product or commodity owing to unanticipated worries of a prospective shortage or price spike" (Yuen et al., 2022). Hence, panic purchasing is not a recent phenomenon. It has been seen on several occasions throughout history. On the other side, panic buying is highly undesirable since it harms a community's resources and supply chain systems (Arafat et al., 2020). In addition, the rise in demand led to price hikes for necessary commodities such as rice. Unfortunately, in times of crisis, many businesses raise the cost of the necessities that customers often purchase due to short supply.

New paradigms in consumer behaviour appear during times of crisis. Risk attitude and perception are the two most important aspects that shape a consumer's behaviour amid a crisis. The consumer's perception of the risk's content is reflected in their risk attitude. Risk perception represents how the customer evaluates the risk content (Ang et al., 2001).

### **2.2. Risk Types**

#### **2.2.1 Geopolitical and Environmental Risks**

Geopolitical and environmental risks are the two categories used to describe large-scale risks. Acts of war and tensions between nations that endanger the stability of international relations are examples of geopolitical dangers (Mei et al., 2020). Even more, issues will arise from the coexistence of geopolitical risks and other types of risks. Geopolitical risks put other risks in danger by making their adverse effects worse.

The geopolitical danger of restriction has recently become severe. Additionally, several problems, including delays in road and rail routes across Ukraine and its neighbours, have lately been brought on by Russia's invasion of Ukraine. Decision-makers could decide to convey goods via water in this circumstance to stay away from the front lines of war. On the other hand, the COVID-19 epidemic has already put canal

channels under stress (Lan et al., 2022). According to Sharma et al. (2020), a lack of empty containers has made the backhaul journey to Asia impractical due to the closure of Chinese manufacturers and a decline in North American demand due to import restrictions by the COVID-19 epidemic. Closing nations' airspace and limiting sea transportation are two more recent limitations. This might be viewed as emphasising the significance of taking geopolitical risks into account as one of the main risk categories.

Companies have predicted that the disruption caused by cross-border blockades and trade bans will result in supply hoarding and high prices. Furthermore, restrictions on commercial flights near the Ukraine-Russia border will be disrupted, as cross-border goods and supplies may be delayed. This will exacerbate the disruption in the global supply chain and raise import prices (Ozili, 2022).

On the other side, environmental risks have always been a challenging and complex problem for many organisations. An emergent environmental danger related to the pandemic has recently been recognised as the exponential increase of COVID-19 cases in a particular area. Threats to the supply chain are specific to pandemic outbreaks (Ivanov, 2020). Recent research indicates that a rise in COVID-19 cases has forced governments to order manufacturers to stop operating (Munim et al., 2022). The global supply chain and financial systems have suffered due to the increase in COVID-19 cases (Mezghani et al., 2021). Environmental hazards include things such as seasonal fluctuations and natural calamities. Natural catastrophes include earthquakes, large fires, volcanoes, floods, avalanches, rock falls, and landslides.

### **2.2.2 Demand Side Risks**

According to Manuj and Mentzer (2008), the demand risk is defined as the chance of an incident related with outward flows that may alter consumers' likelihood of placing orders with the focal company, as well as variance in the volume and assortment demanded by the customer. Disasters such as wars and pandemics have historically impacted supply chain networks (Veselovská, 2020). Uncertainty in the environment can have an impact on consumer behaviour principles. As a result, catastrophes and pandemics like COVID-19 alter previously understood features of customer behaviour, potentially confusing managers in making the best judgments regarding their products and services (Raewf et al., 2021). Demand-side risks are supply chain networks' most frequent and essential ones. Demand-side risks are typically caused by the market's illiquidity, shifting consumer preferences, competitor actions, distribution centres that fail to deliver goods to clients, and market share losses (Ceylan, 2020). Demand-side risks have become more likely as a result of the COVID-19 epidemic (Ivanov, 2020).

According to data from prior economic crises, such as those in Indonesia and Bangladesh, people maintain their calorie intake by purchasing more processed foods or inexpensive staple food such as corn and rice (Goldberg, 2020). They also eat less expensive, nutritious foods such as fruits, vegetables, meat, and dairy. Even before the

war, more than 70% of the population in many countries, Pakistan and Egypt, for example, relied on grain supplies from Ukraine and Russia and could not afford a healthy diet (Osendarp et al., 2022).

According to estimates, rising staple grain prices and energy-related prices for other foods, such as animal foods, will reduce people's purchasing power in Pakistan and Egypt by almost one-third (Waris et al., 2020). Consequently, 91% and 95% of the populations in those nations, correspondingly, would not be able to afford a nutritious diet based on Food and Agriculture Organization report (FAO, 2022); estimates are subject to a variety of uncertainties, including the length of the war and its effect on the planting season, the expansion of substitute exporters of food or fertiliser, and the government's capacity to lessen the effects of higher consumer prices, such as through subsidies.

A negative demand can be a massive problem for industries; according to a recent survey, 46% of consumers are reducing their purchases during pandemics, which directly impacts business company sales (Kim, 2020). Consequently, buying non-essential items decreases during crises (Reyneke, 2011). Similarly, consumers' perceptions of luxury products shifted to more affordable products and favouring products that met their basic needs (Ang et al., 2000). Hence, the demand for many products may disappear. It has been demonstrated that the consequences of environmental uncertainty during the COVID-19 pandemic were induced by a fall in demand and a sudden shift in consumer behaviour (Raewf et al., 2021).

In contrast, many studies reveal that panic buying is a reaction to environmental stimuli and reflective thinking. Social influence and social norms can increase consumers' perceptions of scarcity and affective response, leading to panic buying (Preston et al., 2015; Li et al., 2021). A supply shortage may cause demand to rise (Tsao et al., 2019). When perishable products and household necessities are acquired in large numbers and subsequently discarded, negative externalities occur in society because another consumer is denied the opportunity to enjoy the goods (Steven et al., 2014). Hence, the following hypothesis was proposed

**H1:** Crisis has a positive relationship with demand-side risks of consumers' buying behaviour.

### **2.3. Crises Non-Coercive Influences**

In times of crisis, advice-giving and information-sharing impact people's perceptions of scarcity (Yuenet et al., 2022). The two forms of social influence are coercive influence, which elicits conformity to avoid punishment or receive rewards, and non-coercive social influence, which indicates proactive attitude change owing to external information (Frazier and Rody, 1991). Non-coercive influence strategies have been known as information exchanges and recommendations affecting an individual's perception during crises (Yeun et al., 2022). Mobile devices like computers, tablets, and smartphones enable quick news access, and the power of social media networks enables complete control over the content that is produced and

distributed; one crucial implication is that it has an impact on the information's credibility and accuracy (Hornmoen and McInnes, 2018).

Through headlines, dominant means of information sharing, such as mass and social media, can inform and dispel misinformation or insight panic (Ahmad and Murad, 2020; Loxton et al., 2020). Extensive coverage of panic buying in significant media venues fosters this behaviour even more (Philip and Cherian, 2020). During the 2013-2016 West African Ebola epidemic, much misinformation was circulating on social media networks, fueling public anxiety and risk perceptions (Liu et al., 2020) that led to a perceived scarcity.

Individuals' perceptions of product unavailability are perceived as perceived scarcity (Li et al., 2021). Jeewska-Zychowicz et al. (2020) discovered that when consumers trust information from the media and other sources, such as friends or bloggers, their feeling of having restricted access to items increases. This raises the likelihood of purchasing more substantial products than usual.

Several psychological factors, such as the perceived threat of scarcity, fear of the unknown, social learning, supply chain mismanagement, administrative failure, and being influenced by peer pressure, may all contribute to the development of this behaviour (Arafat et al., 2020; Yuen et al., 2020). According to a media report analysis research, rumours during crises such as the COVID-19 pandemic are responsible for panic buying in more than 25% of cases (Arafat et al., 2020). Panic purchasing eventually leads to product depletion, price increases, the black market, and unequal distribution of consumable commodities, all of which can contribute to disorder development in society.

As a result, the type and quantity of information an individual is exposed to can alter his/her perception of scarcity. Increased prices for everyday items would be another non-coercive influence (Tan et al., 2020), as consumers may perceive price changes as a result of supply and demand imbalances. Hence the following hypothesis was proposed:

**H2:** Non-coercive influence has a positive relationship with perceived scarcity.

## **2.4. Panic Buying Behaviour**

Panic buying is a well-known economic phenomenon that frequently happens during severe worldwide crises, epidemics, or natural disasters, notably in behavioural economics (Levinson, 2012). People begin to hoard goods out of fear or worry, which can be explained by their way of not being able to obtain them in the future, their perception of scarcity, the fear of losing control over the environment, and feeling insecure or unstable are all related to the severity of the current situation, crises, or pandemics (Arafat et al., 2020).

Regarding the change in US consumer demand for food, pharmaceuticals, and beverages, it has been suggested that COVID-19 impacted consumption patterns due to uncertainty and volatility. Additionally, toilet paper hoarding was seen in the United

States, spreading to other nations, including Italy, Australia, the United Kingdom, and others, as a mass phenomenon (Baddeley, 2020).

## 2.5. Perceived Scarcity and Panic Buying Behaviour

Panic buying is described by cognitive flaws connected to perceived danger, shortage, and maladaptive behaviours such as excessive spending (Kar et al., 2020). The scarcity principle is the core feature of the perceived scarcity model (Nettle and Saxe, 2020). Scarcity was introduced as a fundamental economic issue resulting from having finite resources but theoretically infinite needs (Chappelow, 2019). Consequently, multiple studies have discovered that scarcity can psychologically impact a product's value (Lynn, 1992). This is relatable to panic buying, as when an individual perceives an item to be limited, he may be more motivated to buy it (Islam et al., 2021; Omar et al., 2021).

Similarly, Timothy Brock (1968) proves the Commodity hypothesis, which holds that any good would be valued to the extent that it is unavailable. When a person believes an item is scarce, they may be more motivated to acquire it to maintain the freedom of choice (Arafat et al., 2020). Therefore, the model proposed in this study hypothesises that:

**H3:** Perceived scarcity positively influences panic buying behaviour.

## 2.6. Research Model

The research model frames the dependent and independent variables relationships.

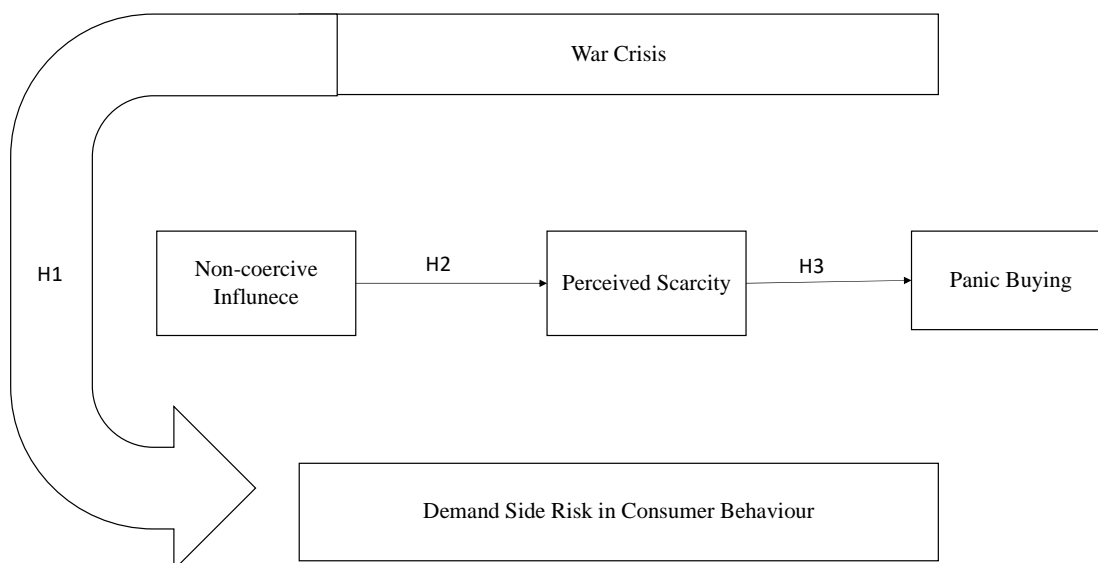


Figure 1: Proposed Research Model

### **3. Research Methodology**

This research used a descriptive study method, and a structured questionnaire was employed to collect the data from the study sample. This technique is conceptually relevant since it enables the empirical evaluation of real statistical measures of theorised hypotheses (Hair et al., 1998). The following sections will discuss the sampling techniques, survey development, and data collection

#### **3.1. Sampling Techniques**

Since the target population was customers who lived in Egypt, convenience sampling was used. A consumer who is an active social media user who participated in at least one group or followed at least one page for retailers or hypermarkets was chosen because consumers who always follow the retailer's pages or groups are keen on the prices and promotions provided. The questionnaire was sent over Facebook Messenger to several groups for grocery retailers and individual Facebook profiles, with a response rate of 86%. All respondents provided free-form, anonymous responses. The survey was conducted in June 2022. A total of 577 consumers answered the questionnaire, 500 of which were valid for analysis.

#### **3.2. Survey development**

Previously verified scales from the literature were modified for the questionnaire. In addition to validity, the researcher examined past study usage, shortness, generalizability, simplicity of translation to Arabic, and compatibility with the Egyptian culture while selecting the scales. For measuring the tendency to panic buy, the panic buying scale (4 items) was adapted from Byun and Sternquist (2008) and used recently by Sheu and Kuo (2020). For measuring non-coercive influence, three items were adapted from Sheu and Kuo (2020). Finally, Byun and Sternquist's (2008) scale for perceived scarcity (4 items) was selected. All items are reported in table 1.

The questionnaire includes two sections; The first section includes demographic and socioeconomic questions about participants' gender, age, nationality, education, occupation, monthly income and frequency of shopping before and after the price increase, which in turn can reflect the shift in demand. In Section 2, responders were asked to assess the measurement items on a 5-point Likert scale ranging from "1 = strongly disagree, 2= disagree, 3=neutral, 4=agree and 5 = strongly agree". All scale items were purified utilising scale production and purification methodologies and processes (DeVellis, 2003), especially confirmatory factor analysis.

To guarantee good translation and equivalency, these scales were translated into the respondents' language using a multi-strategy method (Buil et al., 2012). As a result, the questionnaire procedure comprised forward translation, back translation, independent evaluation, committee review, and a pilot study.



### 3.3. Pilot Study

The survey instrument's final version was pre-tested before it was finalised. A pilot study is being undertaken on the same sort of respondents who are taking part in the main study to check that questions are being asked correctly and straightforwardly. Therefore, respondents can respond appropriately and report any misunderstandings or flaws in the questionnaire (Neuman, 2014; Pallant, 2011). After that, a pilot research was conducted with marketing academics and professionals. The measuring scales used in the study are shown in table 1.

**Table 1: Measurement Scales**

Construct	Items	Authors
Panic Buying	<p>I had the urge to buy products immediately</p> <p>I found several things I wanted to grab even though they were not on my shopping list</p> <p>I spontaneously grabbed the product of interest</p> <p>I bought more products than I usually would</p>	Byun and Sternquist (2008); Sheu and Kuo (2020)
Non-Coercive Influence	<p>The media portrays product stockpiling for risk mitigation during crises as acceptable to the public.</p> <p>The media portrays public fear of the volatility of product prices and supply shortages during crises.</p> <p>The media portrays the public as frequently rushing into panic buying products during crises.</p>	Sheu and Kuo (2020)
<i>Perceived Scarcity</i>	<p>The products that I wanted to buy will be very limited during crises</p> <p>The product brand availability will be very limited during crises</p> <p>The sizes of a product will be very limited during crises</p> <p>The types of products will be very limited during crises</p>	Byun and Sternquist (2008)

### 3.4. Data Collection

In June 2022, the survey was sent electronically and was active for one month; several messages were sent to the consumers to encourage them about the importance of their answers for academic purposes. The questionnaire included a cover page that explained the objective of the questionnaire, explaining that lately, consumers have been suffering from fear regarding high prices after the war between Russia and Ukraine. In addition to that, this research will help in identifying the effects of this crisis on panic buying and perceived scarcity, and their response will be anonymous. The number of total questionnaires available for analysis was 500 (see table 2). The majority of the sample, 55%, was between 30 and 39. Approximately 66% of the participants were females, and 34% were males. The sample is not diverse because the survey included only 5% of foreigners living in Egypt. Approximately 95% of

participants are highly educated (at least holders of a four-year university degree). Employed participants account for approximately 95% of the sample.

In comparison, unemployed or retired participants account for only 1%, and the remaining participants were students. According to income slots, approximately 30% of participants had incomes ranging from zero to 3000 Egyptian pounds. In contrast, the remaining participants had incomes higher than 3001 Egyptian pounds.

Before the war and the price increase, around 70% of participants showed a full or partial willingness to shop more daily, weekly and monthly. These Participants were mainly between the ages of 30 and 39 years old, mixed between males and females in relative weights. However, regarding their incomes, it has been seen that most of the participants have 3001 EGP and more.

**Table 2: Demographic Variables**

Variable		Percentage	Frequency
Gender	Male	34%	170
	Female	66%	330
Age	19-29	10%	50
	30-39	55%	275
	40-49	20%	100
	50-59	14%	70
	60-69	1%	5
	70 or more	0%	0
Monthly Income	0-3000 EGP	30%	150
	3001-6000 EGP	45%	225
	6001-9000 EGP	15%	75
	9001-12000 EGP	8%	40
	12001 Or more EGP	2%	10
Nationality	Egyptian	95%	475
	Foreigner	5%	25
Education	High school	5%	25
	University degree	80%	400
	Masters or PhD	15%	75
Occupation	Student	4%	20
	Employee	95%	475
	Retired or unemployed	1%	5
<b>Shopping Frequency before the war crisis price increase (Demand-side Risk)</b>	Rarely	2%	10
	A Few times a year	5%	25
	A Few times a month	40%	200
	A few times a week	30%	150
	Daily	23%	115
<b>Shopping Frequency after the war crisis price increase (Demand-side Risk)</b>	Rarely	2%	10
	A Few times a year	10%	50
	A Few times a month	50%	250
	A few times a week	18%	90
	Daily	20%	100
Sample size N=500		100%	500

## 4. Research Results

The first stage is frequency analysis and Cronbach's alpha coefficient using SPSS, followed by testing the measurement model. A confirmatory factor analysis was conducted to test the research model's interrelationships. The suggested latent constructs were analysed using a measurement model in the second stage to see whether they matched the data well and if the structural equation model could use them as input.

### 4.1. Validity and Reliability

The 11 measurement items that were utilised in the factor analysis were put to the test for reliability using Cronbach's coefficient alpha. According to the research, table 3 shows that the standardised item (alpha) for these variables varied from 0.883 to 0.933. Each factor had an alpha score of more than 0.7, indicating strong internal consistency across all constructs. This indicates that the scale structure is reliable and more significant than the acceptable threshold value of 0.7 (Hair et al., 2006).

**Table 3: Reliability of Instruments**

Scale	Number of Items	Cronbach's Alpha
Panic Buying	4	0.933
Non-coercive influence	3	0.883
Perceived Scarcity	4	0.855

### 4.2. Measurement Model Analysis

In order to verify which items, match which constructs and to assess the construct validity of variables, confirmatory factorial analysis (CFA) was carried out. Results for construct validity are shown in table 4 and figure 2. The average variance extracted (AVE) might be regarded as an additional measure of construct validity (Krush, 2001). The extracted average rate variance measures how well a latent construct explains the variation in its indicators (Hair et al., 2014).

All items' AVEs are above the suggested level of 0.50 (Fornell and Larcker, 1981), indicating strong convergent validity. The AVE of each concept is larger than the squared correlations with other constructs, indicating that the discriminant validity was achieved. Composite reliability measures internal consistency (Seo, 2014); its range is between 0 and 1; the higher values, the higher levels of reliability (Hair et al., 2014).

The structural model analysis examined the structural connection between the constructs and the suggested hypotheses. Several goodness-of-fit indices were used and were tested for goodness-of-fit, and the results were then interpreted appropriately. The comparative fit index (CFI), the tucker-lewis index (TLI), chi-square statistics, Normed Fit Index (NFI), the root mean square error of approximation (RMSEA), and the standardised root means square residual (SRMR) are all the essential indices to show the goodness of fit (Chen, 2007; Karadag, 2012; Shook et al., 2004). The overall

findings of the goodness-of-fit test in table 4 show that the model is well-fit. The CFI and TLI values are above the predetermined threshold of 0.95 for both components.

In contrast, the RMSEA and SRMR values fall below the predetermined threshold of 0.08. Table 4 displays the results of the structural model. Generally, the model offers a great fit to the data with acceptable absolute, incremental, and parsimonious indices.

**Table 4: Measurement of the total construct**

Question codes	Construct	Factor Loading	CR (t)	Probability	SMCC
Pb1	← Panic buying	.785	N/A	N/A	.576
Pb2	← Panic buying	.698	9.345	***	.433
Pb3	← Panic buying	.743	9.896	***	.440
Pb4	← Panic buying	.647	9.246	***	.479
Measures: RMSEA: .000; Chisq/df: .963; NFI: 0.983; TLI: 0.992; CFI: 0.993; AVE: 0.592; CR: 0.521					
Nc1	← Non-coercive influence	.625	9.927	N/A	.488
Nc2	← Non-coercive influence	.781	9.683	***	.434
Nc3	← Non-coercive influence	.799	10.902	***	.596
Measures: RMSEA: .000; Chisq/df: .998; NFI: .988; TLI: .963; CFI: .991; AVE: 0.561; CR: 0.532					
Ps1	← Perceived Scarcity	.745	7.247	N/A	.481
Ps2	← Perceived Scarcity	.781	7.531	***	.458
Ps3	← Perceived Scarcity	.641	7.814	***	.681
Ps4	← Perceived Scarcity	.653	7.643	***	.633
Measures: RMSEA: .000; Chisq/df: .992; NFI: .991; TLI: .978; CFI: .984; AVE: 0.682; CR: 0.599					
Whole Model Measures: RMSEA: .079; Chisq/df: 1.673; NFI: .996; TLI: .994; CFI: .991; AVE>0.5 CR: >1.98					

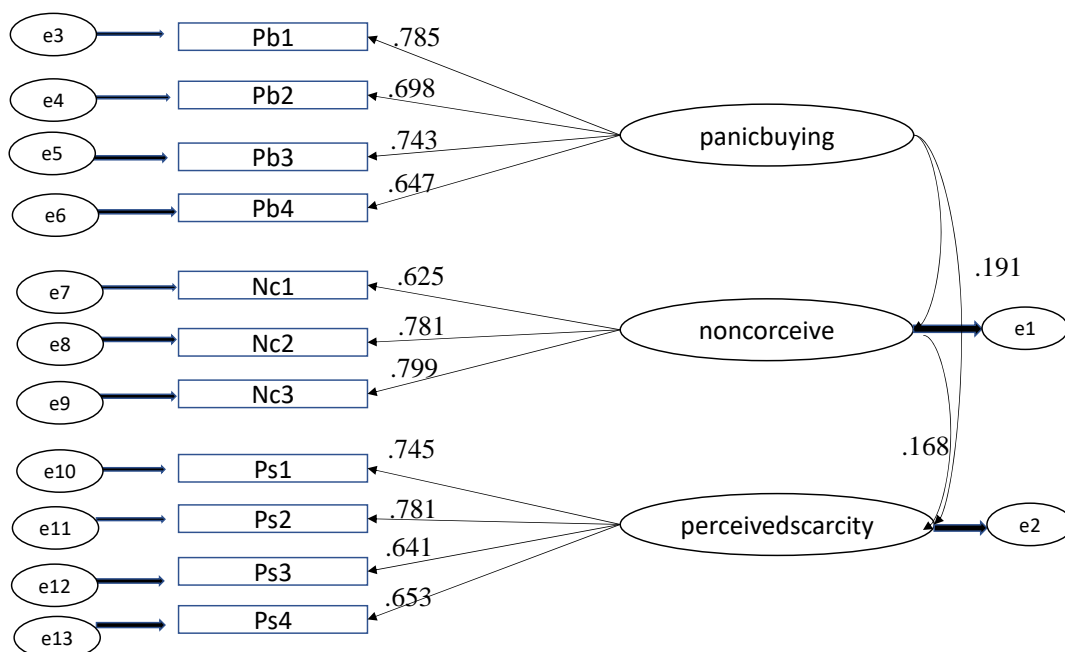


Figure 2 CFA Diagram

### 4.3. Structural model and hypotheses test

Based on the structural model see table 5 indicators, H2 states that non-coercive influence positively affects perceived scarcity. This relationship was statistically significant. H3 indicated that perceived scarcity positively influences panic buying behaviour value was not significantly supported. Based on the data from the survey, the frequency of buying before and after the crises shows that the crises positively affected the demand side risk of consumer buying, which proves that the first hypothesis is significant.

**Table 5. Hypotheses Relationship**

Construct	Construct	Estimate	S. E	CR	Probability
Non-coercive influence	Perceived scarcity	.168	.095	1.764	***
Perceived scarcity	Panic Buying	.191	.097	1.999	0.15

## 5. Findings and Discussions

This study's findings contribute to the literature in various important ways. They are, first, adding to the expanding body of literature on how crises impact consumer behaviour. While the majority of the previous research indicates that political crises have negative impacts on consumer behaviour (Buigut and Kapar, 2020; Choudhry, 2010; Smales, 2017), some research also suggests that there are positive effects (Guidolin and La Ferrara, 2010), and others show a weak relationship between war events and market returns (Hudson and Urquhart, 2015). Given these conflicting findings, to the best of the authors' knowledge, this is the first attempt to examine the consumer purchasing behaviour of the Russia–Ukraine crisis in Egypt. Unlike prior studies (Choudhry, 2010; Rigobon and Sack, 2005), our sample country is not directly involved in the war.

Researchers have attempted to comprehend purchasing behaviour in several studies on consumer behaviour (Lim and Yazdanifard, 2015). Insights into the non-coercive impact of perceived scarcity on panic buying behaviour are added in this research. The results show that the perceived scarcity is positively influenced by non-coercive influence, which prompts retailers to raise product prices. Fortunately, it does not prompt consumers to panic buy but in converse to minimise their buying frequency. Hence, it affected the demand negatively. It is noteworthy that among 500 participants who were shopping more frequently before the crisis decreased their frequency of shopping. Similarly, Appiah-Nimo and Agyapong (2020) recently asserted that the introduction of COVID-19 had significantly altered consumer preferences.

Consumers are reducing their discretionary expenditure by eating out less, entertaining at home more frequently, purchasing more private-label products, and shopping across banners to get the best deals. According to Bohlen et al. (2020) study on the behaviour of several US customers during the global recession, an average of 18 % drop in every given category, which means that consumers are learning to survive without high-priced goods.

As a result, consumers are developing new desires and looking for brands that communicate with them during times of crisis. Marketing firms must plan for the future to deal with customers undergoing significant psychological shifts (Köksal and Özgül, 2007). In addition to traditional pre-crisis targeting, businesses must consider and monitor psychology with consciousness as a new target segmentation based on crisis responses.

### **5.1. Research Implications and Limitations**

The results of this study have consequences for consumer purchasing behaviour on both a theoretical and practical level. When risk assessment is neglected, businesses run various dangers, especially in times of crisis. As a result, they cannot avoid product needs during the wars. Risk assessment is a beneficial first step in dealing with the destructive effects of outbreaks on business (El-Baz and Ruel, 2021).

Globally, more practical measures, such as tariff reductions to keep product prices under control, as well as rapid aid disbursements to developing countries, would be required. Controlling prices in these countries necessitates government intervention and strengthening the domestic public products distribution system.

The findings of this research strongly suggest that policymakers and governments can play an important role in providing a suitable environment for businesses during a crisis. The findings indicated that crises have an impact on demand-side risk. Politicians should understand that war leads to difficulty and affliction for all countries. As a result, it is highly recommended to make conciliatory remarks to avoid political instability and war threats as much as possible during the crisis. It is fundamentally expected to educate consumers about the crisis outcome and how to consume safely during it.

Additionally, utter assurance regarding survival needs is necessary, especially during emergencies. People usually look for ensuring messages regarding emergencies. Inconsistent communication regarding the disaster is supposed to increase anxiety, fear, and uncertainty.

Finally, this research is subject to some limitations; as it was conducted at the beginning of the ongoing Russia–Ukraine crisis, it might not entirely reflect the actual outcome of the crisis. Also, the research has been done without considering the cultural factors' effect on consumers. The study encourages further research into the effects of this crisis. Furthermore, future research may thoroughly examine how the crisis has affected consumer behaviour worldwide because the crisis has shaken the global economy.

### **5.2. Conclusion**

Overall, this research aims to determine whether the results of the aforementioned discussed aspects concerning consumers' tendency to decrease their shopping or to panic buying apply to samples collected by analysing people's views and possible motives. As well as determining which age, income, or gender categories influence

consumers' decisions in this regard. Furthermore, the study aims to review panic buying behaviour, clarify the role of the non-coercive influence in encouraging such behaviour, and enable policymakers to make decisions suitable to alleviate panic buying consequences, such as avoiding shortages of necessities. The study encourages policymakers to promote action toward higher price increases for various goods and to ensure the availability of goods with moderate prices.

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