**The Impact of Scarcity during the COVID-19 Pandemic on Consumer Psychological Well-Being and Hoarding Behavior**

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**Introduction**

The COVID-19 pandemic has fundamentally transformed individuals’ thoughts, emotions, and behaviors. In particular, people have experienced unprecedented scarcity and restrictions on multiple aspects of their lives (Pantano et al., 2020). Some product categories, such as toilet paper and sanitizing tissue, were out of stock for weeks, and there was no guarantee when they would become available. Furthermore, consumers became deficient in interpersonal contact due to social distancing, self-isolation (Henkel et al., 2020), and limited financial resources (Reinhart, 2021). The consequent impact on consumer behavior has been explored in recent studies (Islam et al., 2020; Kirk & Rifkin, 2020; Laato et al., 2020). For instance, Islam et al. (2020) demonstrated that the time and quantity scarcity due to the pandemic caused higher arousal and elicited greater impulsive and obsessive purchases.

Unsurprisingly, individuals have suffered from negative mental conditions while adapting to a volatile environment (Smith et al., 2020). Social distancing and self-isolation have caused anxiety, anger, stress, agitation, and depression among people (WHO, 2020). Individuals’ impaired mental states can explain how and why consumption behavior has changed because of the pandemic. However, the role of consumer mental health has not been investigated concerning the impact of scarcity. Thus, this study aims to examine the deterioration of consumer well-being to explain the consumption behavior during the COVID-19 pandemic.

**Conceptual Framework and Hypotheses Development**

 The stimulus (S) – organism (O) – response (R) framework (Arora, 1982; Russell & Mehrabian, 1977) suggests that individuals behave based on emotional states caused by their environments. External stimuli impact an organism’s emotional responses, including pleasure, dominance, and arousal. Specifically, pleasure indicates feelings of happiness, pleasance, and satisfaction, while arousal refers to the stimulated emotion. Dominance is the extent to which an individual feels control over his/her situation. As a result, the response to approach or avoid a situation is followed (Baker et al., 1992).

In this study, the SOR framework (Russell & Mehrabian, 1977) was applied to consumer mental states during the pandemic by positing the scarcity of resources as the stimulus. Specifically, this study suggests three types of resources were restricted during the pandemic: product, social, and financial. Facing a scarcity of resources, consumers will experience powerlessness and helplessness, responses that are the opposite of dominance. Such scarcity will also cause anxiety that can be associated with arousal and is contrary to pleasure. Consequently, this impaired well-being will lead to consumer hoarding behavior, the compulsive acquiring of possessions that are of limited value (Frost et al., 1998).

H1. Perceived product scarcity during the pandemic will deteriorate consumer wellbeing by increasing a) powerlessness, b) helplessness, and c) anxiety.

H2. Perceived social scarcity during the pandemic will deteriorate consumer wellbeing by increasing a) powerlessness, b) helplessness, and c) anxiety.

H3. Perceived financial scarcity during the pandemic will deteriorate consumer wellbeing by increasing a) powerlessness, b) helplessness, and c) anxiety.

H4. The powerlessness will lead to greater consumer hoarding behavior.

H5. The helplessness will lead to greater consumer hoarding behavior.

H6. The anxiety will lead to greater consumer hoarding behavior.

**Methods and Results**

 An online self-administered survey was conducted by recruiting U.S. adults (N= 301) at the Amazon M-Turk platform. All measurements were adopted from previous studies. The participants were asked to recall their past six months' experiences during the COVID-19 pandemic and to then answer the questionnaire adopted from the previous literature (Gupta, 2013; Cornwell & Waite, 2009; Rowley & Feather, 1987; Krishnan, 2008; Gelbrich & Katja, 2010; Maheswaran &Meyers-Levy, 1990; Frost et al., 2004).

Structural Equation Modeling (SEM) was used to test the proposed hypotheses. The measurement model presented a satisfactory fit (*Χ*2=497.13, df =25, p < .001; CMIN/df=1.97, CFI =.97, TLI = .96, RMSEA =.06) and convergent and discriminant validity was confirmed. The proposed model (*Χ*2=719.45, df =26, p < .001; CMIN/df=2.78, CFI =.94, TLI = .93, RMSEA =.07) mostly supported the hypotheses. Product scarcity was positively related to powerlessness (β= .30, p < .001) and anxiety (β= .15, p < .05), supporting H1a and H1c. However, product scarcity did not lead to helplessness (β= .04, p =.42), rejecting H1b. Social scarcity was associated with powerlessness (β= .24, p < .01), helplessness (β= .39, p < .001), and anxiety (β= .35, p < .001), supporting H2a, H2b, and H2c. Financial scarcity was positively related to helplessness (β= .43, p < .001) and anxiety (β= .29, p < .001), supporting H3b and H3c. However, it did not lead to powerlessness (β= .14, p =.08), rejecting H3a. Powerlessness, helplessness, and anxiety were related to hoarding respectively (β= .22, p < .001; β= .62), supporting H4 and H5. However, anxiety was negatively associated with hoarding (p < .001; β= -.12, p = .02) and rejected H6.

**Discussion**

 The results found that scarce resources caused negative mental states of consumers, which led to hoarding behavior. The perceived unavailability of products resulted in a felt lack of control over the external situation and to anxiety. However, it did not result in a feeling of helplessness, which is an antecedent of depression. The perceived scarcity of social resources due to interpersonal distancing and isolation, though, produced powerlessness, helplessness, and anxiety. Furthermore, the perception of limited financial resources brought on feelings of helplessness and anxiety. However, financial deprivation did not result in impotence toward the situation. Finally, the emotions of powerlessness, helplessness, and anxiety led to a hoarding behavior that compulsively acquired possessions regardless of their limited value. The findings propose that product, social, and financial scarcity undermined consumer well-being in different ways. While the limitation of products caused the participants to perceive a lack of control over their external environment, financial scarcity produced feelings of helplessness. Their deteriorated well-being was related to consumer hoarding behavior.

Stimulus Organism Response

 Scarcity Psychological Wellbeing Consumption Pattern

.30 \*\*\*

.24 \*\*

.22 \*\*\*

.15 \*

.62 \*\*\*

.39 \*\*\*

-.12 \*

.35 \*\*\*

.43 \*\*\*

.29 \*\*\*

*Figure 1.* Results of the Hypothesized Model

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