EVALUATING PANDEMIC LED PANIC BUYING IN RETAIL SECTOR OF PAKISTAN

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ABSTRACT

Purpose: The study sought to evaluate the unique panic buying behavior of consumers to gain an understanding of the factors leading to this type of consumer behavior and its implications for retail marketers and policymakers.

Design/Methodology: This research study utilized Stimuli Organism Response (S-O-R) model to investigate the impact of e-WOM, fear appeal, and perceived scarcity (stimulus) on panic buying (response) with the mediating effect of social media information (SMI) acting as an organism. Data was collected from 300 consumers and analyzed through SEM technique using SmartPLS 3.0.

Findings: The findings of the study show that e-WOM and the fear appeal have a positive impact on panic buying. However, perceived scarcity proved to be insignificant in relation to panic buying. The mediator, social media information, had a strong positive impact on the relationship between e-WOM, fear appeal, perceived scarcity, and panic buying.

Theoretical/Practical/Social Implications: There is a great opportunity for instilling a positive consumer engagement using social media information which can play a stronger role if used properly by the policymakers and marketers. As the world is still faced with a pandemic and consumers are relying on social media information for the availability/shortage of grocery items, therefore, positive practices will help in the regulation of panic buying behavior.

Originality/Value: The findings of the study reveal deeper insights on consumer behavior during turbulent times in the retail sector marketing of Pakistan.

Keywords: *COVID-19, Panic Buying, Retail Sector, PLS-SEM*

Paper type: Research Paper

INTRODUCTION

In the recent era, social media is the most important and quickest medium to convey the message to the targeted audience. According to experts, social media is making people more anxious which is increasing panic buying among consumers (Reuters, 2020). The socially constructed meaning of COVID-19 has changed the business activities and buying behaviors of people around the globe (Ting, Ling & Cheah, 2020). However, it might contribute to misinformation and unnecessary public panic which results in undesirable responses of consumers as well (Jones, 2010). Consumers' buying behavior in panic is generally termed panic buying. Purchasing is consumer behavior in which people buy products in large quantities for avoiding shortages in the future (Shou, Xiong & Shen, 2013). In this vein, buying in unfavorable, chaotic situations termed as panic buying is defined as "behavior exhibited by consumers where they purchase unusually large amounts or an unusually varied range of products in anticipation of, during, or after a disaster or perceived disaster, or in anticipation of a large price increase or upstream shortage" (Loxton et., al., 2020).

The current study proposes to evaluate the factors that are promoting panic buying among consumers during a pandemic by conceptualizing consumer panic buying in the retail grocery supermarkets of twin cities (Rawalpindi and Islamabad) of Pakistan. The research study used the 'S-O-R' model which is a three-stage model (Vieira, 2013). The theoretical model of S-O-R helped look deeper into consumer behavior during the COVID-19 crisis. According to the S-O-R model, there are different types of communication channels where the richness of the channel depends upon two major principles, 1) the tendency of communication to provide feedback and 2) the cues that are provided by the medium (Dennis, 1998). Therefore, this research aims to study consumers' viewpoints on the factors promoting panic buying in Pakistan during the COVID-19 pandemic.

Although there is a growing importance of understanding the phenomenon of panic buying still there is a shortage of academic literature in management studies regarding this aspect (Li & Cong, 2020). It has been highly recommended by previous research studies to focus on the myriad variables along with scarcity that is promoting panic buying among countries where COVID-19 related restrictions are stricter (Li & Cong, 2020). Furthermore, one notable research mentioned the use of qualitative methods for studying panic buying which are not completely unbiased, hence future research is directed to validate the panic buying theories by using quantitative data collection methods (Aslam, et al., 2018).

A great deal of the emerging research has examined the retail sector for durable goods a limited number of empirical studies have focused on food purchases, retail products and consumption changes during the COVID-19 and much of the studies are conducted during first wave of COVID-19. However, the current research study collected data during the second and third wave wherein the consumer became acclimatized to the COVID-19 issues, thus addressing the gap identified by previous research.

According to digital marketing experts, social media is making people anxious about the happenings around the globe impacting the stock supplies; therefore, consumer panic buying has been witnessed globally (Reuters, 2020)**.** The disaster related changes in consumption patterns, consumer behavior and the responses related to COVID-19 are termed as hoarding and panic buying (Pantano, 2020). Most of the studies on the panic buying in COVID-19 pandemic are conducted in the context of retail sector of developed countries. Government of Pakistan has disseminated the information for precaution and cure of COVID-19 on social media as well as on the mainstream media. Islam, et. al. (2020) conducted research on antecedents of panic buying in Pakistan and concluded that it is mainly social media creating the hype that results in panic buying in the retail sector of Pakistan. The context requires further exploration because in the retail sector, fear of lockdowns, time restriction and scarcity of grocery items have derived consumers' panic buying behavior causing consumption crisis from demand side of the economy.

Existing literature on consumer behavior during catastrophes and calamities remained focused on financial crisis. Hence there is a gap to study consumer behavior from non-financial aspects (such as their buying behavior induced by pandemic). From a practical point of view, this study allows managers and retail supermarkets to understand how to operate during a pandemic situation and how to turn it in an opportunity to capitalize on.

LITERATURE REVIEW & HYPOTHESES

Panic buying is a multidimensional phenomenon that has been witnessed during several natural disasters and emergencies regarding public health (Arafat, 2020). It is one of these behavioral changes when consumers buy large amounts of products in the fear of shortage of products during or after the perceived disaster. The e-WOM, fear appeal and perceived scarcity are the stimuli, whereas panic buying is the response and social media information is the organism mediating the relationship between stimuli and response. The phenomenon of panic buying is further explained using the Stimulus-Organism- Response (S-O-R) model in the theoretical framework section.

Impact of Electronic Word of Mouth (e-WOM) on Panic Buying

e-WOM is considered a new concept related to WOM which is referred as, any statement (positive or negative) made by the customer (actual, potential, or former) about a product or service which is available to multiple entities (people and institutions) via internet (Hennig-Thurau et al., 2004). Communication theory suggests that e-WOM provides information of user-oriented and recommendations by the previous shoppers in which it acts both as an informant and a recommender (Park, Lee, & Han, 2007). Online reviews or signals are proposed to bring different stimuli to consumers. Social media is considered to be a major source of e-WOM, being the primary source for information it is affecting consumers' buying decisions (Bronner & De Hoog, 2008).

In the context of e-WOM, it is argued that individuals quickly associate themselves with the posts that are shared by the people having same or similar backgrounds. In accordance with the previous studies on the COVID-19 pandemic, it is hypothesized that e-WOM may have an impact on consumers' panic buying. On the basis of the discussion, we hypothesize that:

H1: e-WOM regarding retail grocery positively affects panic buying during the COVID-19 pandemic.

Fear Appeal: A Potential Factor inducing Panic Buying

The theory of fear appeal is being used in advertising and marketing campaigns for health insurance, personal protective equipment, and life insurance. During COVID-19, the fear factor is enhanced by hedonic and utilitarian motivations (Crabbe, 2020). Fear appeals usually use graphics and overemphasized language in order to arouse fear by focusing on the negative consequences of not adopting the behaviors that are recommended (Baumeister & Vohs, 2007). It is observed that individuals exposed to a fear appeal, either engage in danger control in which the action for avoiding threat by processing the message cognitively is taken, or the fear control in which the message is repressed in order to ignore the threat.

It is observed that the products that are more likely to overcome any specific risk, fear, or danger receive a greater number of purchases (McDaniel & Zeithmal, 1984). The fear that along with COVID-19 will lead consumers to a high level of interactivity among the e-commerce platforms (Arnold & Reynolds, 2012). Therefore, based on the findings of previous studies on calamities in general and the COVID-19 pandemic, the fear appeal may have an impact on consumers' panic buying. On the basis of the discussion the present study postulated the following hypothesis.

H2: Fear appeal regarding retail grocery items positively affect panic buying during the COVID-19 pandemic.

Perceived Scarcity leading to Panic Buying

Products' perceived scarcity implies a threat to personal freedom to obtain required consumables, which triggers the psychological reaction that increases consumer's incentive to choose a substitute that might not be obtainable soon (Ditto, 1989). Commonly the effects of scarcity are examined largely in the advertising messages. Anticipated regret theory links the panic buying with perceived scarcity in which comparison with the actual decisions regarding (no) hoarding during a crisis is done among consumers (Gupta & Gentry, 2019). It is observed that a product having a relatively high price is likely to be perceived as having high quality and is considered more valuable (Hoseason, 2003).

It is observed that the greater the view of shortage, higher the probability that consumers are to feel unprotected and vulnerable to a situation towards COVID-19 (Steven, O'Brien, & Jones, 2014)**.** From the marketing point of view, the substitutions of products as a result of product, service, and resource scarcity might impact the consumers' buying behavior. Therefore, we hypothesize that:

H3: *Perceived Scarcity of grocery items in the retail market positively affects panic buying.*

Role of Social Media Information

Social media information not only influences consumers in the decision-making process but also motivates them regarding the changes in their preferences (Barger & Schultz, 2016)**.** As compared to the traditional media information that is sourced through social media is found to be more diverse (Van Der Heide & Lim, 2016). During COVID-19 lockdowns, social media has provided opportunities for online consumers to share and obtain information. However social learning plays an important role in shaping the decisions of consumers (Zheng & Yang, 2020).

The credibility and value of information by media has become an important factor (Hovland & Weiss, 1951)**.** During the state of panic buying, the purchasing decisions of consumers are influenced by peer choices. According to a global survey, during COVID-19 more than 40% of online users spend their time on social media (Watson, 2020). Social media information affects the customers purchasing behavior via two mechanisms: 1) the attention effect, in which a person's awareness of a product is captured and 2) the endorsement effect, in which users are informed about product quality on the basis of their friends' online comments. According to experts, social media platforms i.e. Twitter and Facebook are the key sources that aggregated the rush among people to stockpile basic household goods (Reuters, 2020).

In the environment of e-commerce, trust is the emotional state that is considered by consumers consider whether communities online are honest or not with the consumers. Much of the evidence suggests that social media information created social proof regarding fear and panic. Hence, a shortage of stock was created as people bought an extra amount of stock (Bradbury Jones & Isham, 2020).

On the basis of the discussion above, the study takes the social media information as the mediator that enhances the link of perceived scarcity, fear appeal, and e-WOM with the panic buying that is exhibited in the hypotheses below:

H4: He-WOM influences Panic buying via social media information

H5: perceived scarcity influences panic buying via social media information

H6: fear appeal influences panic buying via social media information

Theoretical Framework: The S-O-R Model

The S-O-R model (Mehrabian & Russell, 1974) is used to explain the proposed hypotheses. Much of the literature in the field of management studies and in particular, marketing, has empirically supported this model. This S-O-R model is considered appropriate for studying the impulsive & compulsive buying behaviors in the COVID-19 because it empirically and theoretically validates that external stimulus influence the emotional and cognitive states of an individual which affects the behavior of a consumer (Islam & Azam, 2018). The components of the S-O-R model are presented below:
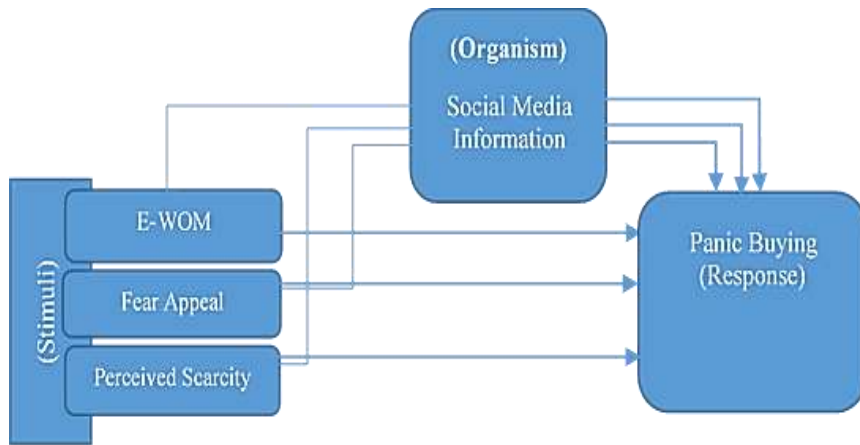
Figure 1: Theoretical Framework

Stimulus (S): Perceived Scarcity, Fear Appeal, and e-WOM

Referring to the process of consumer decision-making, the stimulus is conceptualized as the external factors that are associated with the environment of stores. The situational stimuli affect the consumer's response against buying which is associated with some particular consumption occasion due to environmental or social factors (Dholakia, 2000).

Organism (O): Social Media Information (SMI)

Organism attributes to the internal evaluation of consumers and is categorized into two types: cognitive reactions and affective (Mehrabian & Russell, 1974). The cognitive reaction is generally the mental process about the consumer stimulus which includes thinking or evaluation (Chen & Yao, 2018). In reference to this research, social media information acts as an organism (O), so the information that is shared on social media plays a great role in controlling the panic buying by the spread of positive messages which reduces fear. Meanwhile, media is playing a big role in fueling the social perception about supply chain and scarcity (Arafat, 2020).

Response (R): Panic Buying

The response is the consumer's reaction towards the online impulse buying behavior, stimuli, and organisms. The element of response in the S-O-R model is bi-directional which affects the consumers and businesses and can be seen directly as an avoidance behavior or avoidance (Donovan & Nesdale, 1994). According to the S-O-R model consumer behavior is the response towards environmental stimuli and a psychological state that is the result of the exposure to the stimuli.

RESEARCH METHODOLOGY

Research design and sampling

The nature of this study is correlational as it aims to describe the phenomenon of panic buying with the help of independent variables: e-WOM, fear appeal, and perceived scarcity and mediator as social media information that affect enhance the relationship of these variables. The aim of this study is to explore the impact of independent variables on dependent one (consumers panic buying) during COVID-19; therefore, the choice of quantitative methodology was appropriate.

For the current study, the unit of analysis is an individual consumer of retail supermarkets residing in the twin cities (Rawalpindi and Islamabad) who is also an avid user of social media websites for the purchase of retail items. Population refers to a wide cluster of people or organizations having required characteristics for data collection for the research study (Creswell, 2014). The consumers who shop in retail grocery supermarkets in Islamabad and Rawalpindi (twin cities) were taken as the population for this study. The twin cities were taken as the representative of Pakistan because of survey administration during COVID-19. The retail sector of the Federal Capital of Pakistan, Islamabad is more developed as compared to other cities of Pakistan. As per Umair, et. Al. (2019), "The increase in the retail sector of Pakistan is due to the increased income, urbanization and customer awareness" and "the twin cities of the country are also expanding its retail sector, the figures of the last decade regarding the GDP 17.5 steady, and then and it also is the second-largest employing, which is almost is 16%".

The sampling method was purposive with a group of people having the following characteristics were selected for the study:

The individuals with the following characteristics were specifically selected for data collection:

- Users of social media and blogs on the internet
- University undergraduate and graduate students
- Other consumers who are the users of the above-mentioned social media platforms
- Residents of twin cities of Pakistan

Further to purposive sampling, convenience sampling was also used for approaching the sample.

Convenience sampling, also known as availability sampling, falls under the category of non-probability or non-random sampling techniques which are used for the ease of access of the sample (Farrokhi & Mahmoudi-Hamidabad, 2012). It was appropriate to use convenience sampling for this research because whoever can be conveniently approached from amongst the consumers of the retail supermarket was considered as a potential respondent. The data was collected between March-July 2021 which covers the third wave of COVID-19. The sample size obtained was 318. Out of 318, only 300 valid responses could be generated. Hence, the survey response rate was 0.94.

Measurement of variables

The primary data for this research was collected through an online questionnaire which consisted of two sections: Section A consisted of the demographic details of respondents. Whereas section B consisted of all the items based on the "5-point Likert Scale" where 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree". The responses and the respondents' names and identity were kept confidential. The demographic variables included Gender, Age, Marital Status, and educational qualification.

DATA ANALYSIS AND FINDINGS

In this research, the data was analyzed with the help of the partial lease square structural equation modelling (PLS-SEM) approach. PLS is known as a soft modeling approach to SEM having no assumptions about the data distribution (Squillacciotti & Tenenhaus, 2008). PLS-SEM explains the complex relationships of different variables and handles the data sets with "abnormal data distributions" (Vinzi, 2010).

To assess the reliability and validity of the items different tests were run in Smart PLS software including internal Consistency (CR, Cronbach's Alpha" and "rho A), indicator Reliability, convergent validity, discriminant validity. Partial Least Square Structural Equation Modelling (PLS-SEM) was done using Smart PLS 3.3.3. The data was collected from 300 respondents (Table 1).

Among these, 159 respondents were male, 137 were females. On the basis of age, the majority fall into the 20-30 age group and only 2 respondents belonged to the above 50 age group. Students from a university located in Islamabad responded most to the questionnaire (58.4%). Mostly the respondents (67 %) were married and had a monthly income (35.7 %) 31,000- 50,000.

Measurement Model

The measurement model is used to demonstrate the constructs how they are assessed through the variable and their measurement characteristics. The model is presented below (as constructed in Smart PLS).

In this study 5 variables were used: Panic Buying (PB), e-WOM, Perceived Scarcity (PS), Fear Appeal (FA) and social media information (SMI) which were measured through 20 items. Following sections deal with the validity and reliability of the model and the variables therein.

Internal Consistency and Convergent Validity

The measurement used for internal consistency is 'Cronbach's Alpha' and 'composite reliability'. The reliability is measured on the basis of interrelationship among the observed items of variables. In PLS-SEM, the values are organized according to their indicator's individual reliability (Hair Jr, Hult, Ringle, & Sarstedt, 2021). For establishing convergent validity, along with the factor loadings (presented above), Cronbach's Alpha (α), path co-efficient (ϱ_A), average variance extracted (AVE) and

composite reliability (CR) are calculated. Their values ranges from 0 to 1. Average variance extracted (AVE) value should be greater than 0.50 to be adequate for the convergent validity (Bagozzi & Yi, 1988).

Table 1: Respondents' Information

Category	Frequency	Percent
Gender		
Male	159	53.0
Female	137	45.7
Prefer not to say	4	1.3
Marital Status		
Married	90	30.0
Single	201	67.0
Divorced	9	3.0
Education		
Intermediate	33	11.0
Bachelor's Degree	117	39.0
Master's Degree	77	25.7
MPhil /MS	60	20.0
PHD	10	3.3
Other	3	1.0
Age		
Less than 20	31	10.3
20-30	165	55.0
30-40	81	27.0
40-50	21	7.0
Above 50	2	.7
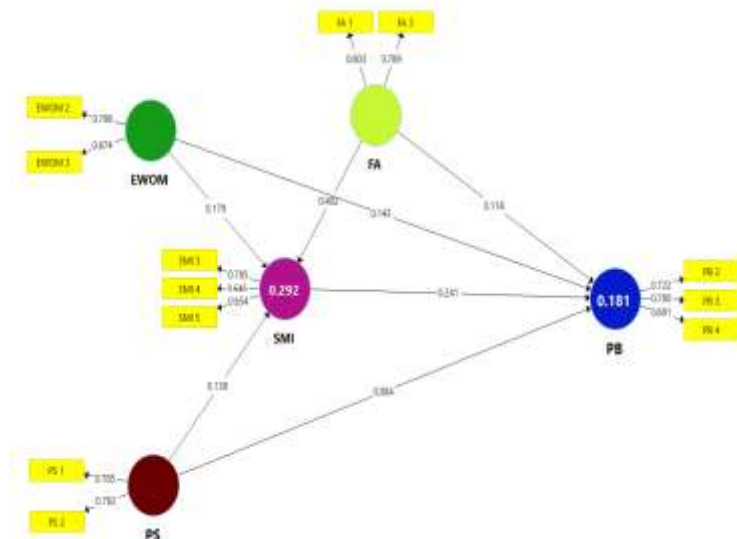
Figure 2: Research Model (Smart PLS 3.0)

Table 2: Outer Loadings

Item Code	Factor Loadings
e-WOM	
e-WOM 2	0.711
e-WOM 3	0.766
Fear Appeal	
FA 1	0.800
FA 3	0.791
Panic Buying	
PB 2	0.743
PB 3	0.769
PB 4	0.681*
Perceived Scarcity	
PS 1	0.773
PS 2	0.775
Social Media Information	
SMI 3	0.786
SMI 4	0.646*
SMI 5	0.653*

Table 3. Convergent Validity

Variable	α	ρ_A	CR	AVE
EWOM	0.172	0.172	0.707	0.547
Fear Appeal (FA)	0.421	0.421	0.776	0.633
Panic Buying (PB)	0.567	0.572	0.775	0.535
Perceived Scarcity (PS)	0.330	0.330	0.749	0.599
Social Media Information (SMI)	0.469	0.479	0.738	0.487

Discriminant validity (HTMT)

Discriminant validity refers to degree of difference between the constructs which was assessed using HTMT criteria: The values of this measure should be below 0.90 which means the variables are different from each other. For this study, all the values of HTMT (shown in the table above) were below 0.90 depicting that model is satisfactory.

Table 4. Discriminant Validity (HTMT)

	e-WOM	FA	PB	PS	SMI
e-WOM					
Fear Appeal (FA)	0.90				
Panic Buying (PB)	0.853	0.601			
Perceived Scarcity (PS)	0.90	0.698	0.509		
Social Media Information (SMI)	0.90	1.079	0.717	0.733	

Explanatory Power of the Model

The explanatory power of model is shown by the values of R-Square. The values of R-square ranges between 0 and 1 with the values closer to one depict higher predictive accuracy. This model with R-square value of 0.136 shows low to medium predictive accuracy as the R-square values closer to 0.

Hypothesis Testing

Hypothesis testing is done through bootstrapping technique in which path coefficients, t-value and p-values of the model are measured in Smart PLS. The number of bootstrap samples should be 5000 and the number of bootstrap cases should match the number of valid observations (Hair, Sarstedt, Ringle, & Mena, 2012).

Table 5. Results of Structural Model

Hypothesis		B	t- value	p-value	Decision
H1	EWOM-PB	0.143	2.256	0.012	Accepted
H2	FA-PB	0.118	1.965	0.031	Accepted
H3	PS-PB	0.084	1.306	0.096	Rejected
H4	EWOM - SMI - PB	0.043	2.286	0.011	Accepted
H5	FA– SMI - PB	0.097	3.205	0.001	Accepted
H6	PS – SMI – PB	0.033	1.940	0.026	Accepted

The table above shows the decision on acceptance or rejection of the hypotheses. The t-values higher than 1.96 hypotheses are accepted and vice versa, according to (Hinkley, 1988). B (beta) in the able above shows the positive relationships between the variables and according to the values all the variables are positively co-related. P-value shows the significance of relationship between the variables. If $p <$ or $= 0$, the relationship between the variables is significant (Knock, 2015). All the hypotheses show the significant relationship between the dependent, independent variables and mediators.

The data analysis has shown that there is a significant positive relationship between e-WOM and panic buying. It means that word of mouth regarding the shortage of retail products urges consumers to do panic buying in the context of the current pandemic. A significant positive relationship exists between fear appeal and panic buying. It means that fear appeal is created by the information on social media regarding the shortage of retail products, which urges consumers to do panic buying in the context of the current pandemic. There is no significant positive relationship between perceived scarcity and panic buying. It means that perceived scarcity regarding the shortage of retail products does not affect the panic buying phenomenon in the context of current pandemic. It seems that the Pakistani government announcement to keep the stock of food and essential retail items intact relaxed the consumers. Furthermore, online facility to order retail grocery and having it at their doorstep relaxed the consumers and they did not panic due to perceived scarcity. Hence, the results are in contrast with the literature on perceived scarcity leading to panic buying (Hoseason, 2003; Steven, O'Brien, & Jones, 2014; Gupta &

Gentry, 2019) as the previous studies were conducted in pre-pandemic period whereas, current study particularly focuses on perceived scarcity in COVID-19.

According to empirical results, Social Media Information (SMI) significantly mediates the relation between e-WOM and Panic buying in the context of current pandemic. The information presented to consumers on the social media positively and strongly influences the relationship between electronic word of mouth and panic buying. Consumers seem to be highly influenced by the information on the retail shopping presented to them on different social media platform, particularly Facebook and Instagram, during pandemic mainly because the physical contact with social contacts in restricted, hence the e-WOM turned out to be popularly used mode of information dissemination.

Social Media Information (SMI) significantly mediates the relation between fear appeal and panic buying in the context of current pandemic. The information presented to consumers on the social media positively and strongly influences the relationship between fear appeal and panic buying. Consumers seem to be highly influenced by the messages containing fear appeal on the retail shopping presented to them on different social media platforms, particularly Facebook and Instagram, during pandemic which compels them to do panic buying.

Social Media Information (SMI) mediates the relation between Perceived Scarcity and Panic buying in the context of current pandemic. The information presented to consumers on the social media positively influences the relationship between Perceived scarcity and Panic Buying. Consumers seem to be influenced by the information on the retail shopping presented to them on different social media platform, particularly Facebook and Instagram, during pandemic, that certain products will become scarce in near future and make them buy more products than usual i.e. panic buying.

The above discussion presents the mediation effect of SMI on fear appeal, e-WOM and perceived scarcity. The empirical results show that SMI strongly mediates the relationship between fear appeal, e-WOM with panic buying as compared to relationship between perceived scarcity and panic buying.

IMPLICATIONS

Theoretical Implications

The research generated notable theoretical implications regarding consumer behavior in unique circumstances in the field of marketing. It highlights the factors such as e-WOM, perceived scarcity, fear appeal with the mediating role of social media information is promoting Panic buying among consumers. Panic buying is a special consumer buying behavior which has been widely studied but the current study has exhibited how consumers change their regular buying behavior to special one during unseen unique circumstances of pandemic. Further, adding the notable factors that affect the consumer buying behavior in special circumstances, this study enriches the S-O-R model.

In the current pandemic situation, the consumers are showing panic buying in different pandemic waves mainly because of the social media information. Consumers get awareness through e-WOM about actual or perceived scarcity of retail products where retail firms are greatly benefiting from this phenomenon. Furthermore, fear appeal promotes such type of buying behavior which is instilled in consumer through spread of social media information. Consumers are presented with the information on forthcoming waves of variants of viruses, lockdown and shortages of retail products.

Practical Implication

From policy and practice point of view, there is a great opportunity for instilling positive consumer engagement using social media information. Social media information can play even stronger role if used properly by the policy makers and marketers. Government can use social media to generate awareness among the public by providing authentic and genuine information whereas, companies and marketers can use the same mode to facilitate the consumers in favor of their retail policies. As the world is still faced with the pandemic situation. Consumers are relying more on the social media information for the availability or shortage of grocery items during COVID-19 lockdowns; therefore, a positive practice will help in the regulation of panic buying behavior and help consumers with authentic information without deception.

LIMITATIONS AND FUTURE RESEARCH

The first and foremost limitation relate to the scope of the study. The study discusses the current causes of panic buying which is based on the limited relevant current literature as the pandemic is a new phenomenon and the exploration of panic buying due to pandemic is nascent. However, the literature in general on panic buying was utilized to cover up this limitation.

Secondly, this research is conducted on the retail product consumers of twin cities of Pakistan due to time limitation and pandemic-driven lockdowns. Thus, the applicability of findings to other regions in Pakistan as well as in other countries of the world may be limited. However, this limitation can be dealt with by testing the theoretical model and the relationship of variables presented in the study in different spatial, temporal and situational contexts.

Finally, this study is conducted by collecting data through online questionnaire as due to the COVID-19 restrictions, the accessibility to the required respondents was limited. Further due to the lockdown, self-administered questionnaires were not possible. However, in the current digital world use of online technologies for data collection and analysis is turning out to be the new normal. Majority of the studies with global reach collect data using survey monkey, google forms, Kahoot and similar online forums. Although the study could have been better using face to face data collection methods, but it is argued that online data collection has not affected the quality of data collected.

For future directions, studies on diverse and emergent consumer behavior in COVID-19 in the field of marketing are limited. Although research in the field of psychology deal with panic buying, economics deal with consumer purchase patterns, marketing as a part of management studies lacks dedicated to research on new buying behaviors. it is recommended that future research in the field of marketing be conducted on factors leading to panic buying to make recommendations for the improvement of marketing mix strategies in uncertain times and emergencies.

Besides, comparisons can be made within social media platforms that provoke panic buying among people e.g., Facebook, Instagram or Twitter. Furthermore, in this study, the research retail sector was selected for study but future studies can focus on e-retailing in particular and on different sectors. The study findings can be tested in different geographical regions and comparative studies on target consumers from generation can generate unique and interesting result.

CONCLUSION

The hypothesis-wise discussion above indicates that there is a highly significant and positive relation between e-WOM, fear appeal, perceived scarcity and panic buying. Further, social media information impacts the relation between independent factors and panic buying in the context of pandemic. In the light of S-O-R model adopted in the study, the empirical findings confirm the relationship of Stimulus (e-WOM, fear appeal, perceived scarcity)-O (social media information) -R (panic buying). In the current crisis of COVID-19 pandemic, consumers are inclined towards panic buying due to electronic word of mouth because physical contact with the social contact is greatly hampered. This factor has enhanced the role of social media to a huge extent. Furthermore, lockdowns, real or artificial shortages of retail products and multiple waves of COVID-19 and appearances of new variants of virus gave rise to fear appeal and perceived scarcity that in turn led to the phenomenon of panic buying.

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