

An Empirical Study on Consumer Buying Behaviour during COVID-19 Pandemic

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Background: this study deals with analyzing consumer-buying behavior during the outbreak of COVID-19 pandemic. During the phase of pandemic consumer behavior's, purchasing mood, and habits have been changing rapidly. This study illustrates that COVID-19 has accelerated panic among consumers, and during the phases of COVID-19 people have been deeply concerned about meeting their daily needs especially during the lockdowns and curfews. Experiencing fear and panic during COVID-19 have resulted in creating uncertainty for consumers to buy certain types of products including; food, medicine, and hygiene products as essential needs.

Purpose - Consumer buying behavior has always been a sensitive aspect that can be affected by the various factors typically; this has been experienced during the span of COVID-19. The main purpose of this study is to investigate the main factors that affect the consumer's buying behavior during the COVID-19 outbreak. The study aims to learn about potential factors such

as fear and irrational behavior and their influence on consumers' buying behavior.

Design/methodology/approach - The research surveyed 500 participants from more than 40 countries. The study collected data through an online designed questionnaire using a convenient sampling approach. The study employed a structural equation modeling approach using Smart PLS 3.3.3.

Findings - The results of the survey show that consumer-buying behavior is changed during the COVID-19, as consumers enter the panic and fear phase. Therefore, consumers stock necessary products due to fear of quarantine and lock-down. Another crucial key finding of this study is that the consumers have encountered various risks as "personal, social and economic risks," besides which the study also shows that consumers during COVID-19 changed their attitude and preference towards the products of safety and survival as 'gloves, masks, food, sanitizers, and hand soap.' This study shows that COVID-19 has a

tremendous influence on consumer buying behavior.

Originality/value - The findings of this study are in line with what Arjun Chaudhuri (2007) has addressed regarding emotions and reasons of consumers while purchasing a product as "joy and sorrow are basic, primal motivations in the human condition, and are crucial determinants in our choices of products and services.

Keywords: Consumer, Consumer buying behavior, COVID-19, Panic Buying, Customer Preference

1. INTRODUCTION

Consumer purchasing behaviour varies depending on the environment and the situation in which they find themselves. According to the available literature and research, consumer behaviour is a complex component of human lives that is constantly changing. Consumer purchasing behaviour was stimulated by the outbreak of COVID-19, particularly in the early stages during March and April 2020, because the pandemic had brought uncertainty, risk, and anxiety to consumers worldwide. Addressing consumer buying behavioural change needs accurate studies and data, while during COVID-19 few studies have outlined this behavioural change, similar study that is associated with our current study is conducted by Nielsen (2020) in studying shopper behaviour in China during the outbreak and was extended to the other countries around the world, the research found out that consumers experienced six behaviour stages including three which are highly associated with our current study:

1. Proactive health-minded buying: in which shopping products were for the maintaining health well-being of individuals.
2. Reactive health management: Prioritization of products for infection containment (e.g. facemasks).

3. Pantry preparation: Higher purchases of shelf-safe products and increased store visits.

The current pandemic has affected and influenced the global consumer behaviour. The current scenario is, consumers are purchasing and stocking essentials out of fear and panic. This certainly points out that the human behaviour changes during crises. Therefore, this study finds out that consumer around the world rush to securing their essentials by any possible means. Based on Channel Sight data consumer behaviours have changed in terms of their purchase patterns such as purchasing various product combinations, and buy products that are not seen in normal time purchase (Pham, 2020).

The current consumer behaviour is nothing new but is a result of crisis, which brought for the different facets of consumer behaviour. The fear of unknown and lockdown forced people to stock essentials at home. It appears that panic and fear are significant factors for consumers to purchase only essentials and delay the other purchases such as apparels, cars, and travel. In line with this notion, Dholakia (2020) indicates that COVID-19 has made abrupt and drastic consumer behaviour change, in which customers focus on priority items such as hand sanitizers, hair dye, Netflix, while disregard things like cars, business travels, movie tickets, and expensive products.

As buying behaviour during the COVID-19 period can be identified by certain pattern, which influences people and push them to buy. The behaviour includes fear, availability of resources, access, and anxiety. Other factors like income and desire are less influential. According to Dawson et al. (2006), consumer behaviour is defined as a combination of consumer's buying consciousness and external incentives, which may remodel the behaviour of the consumer. While, Accenture (2020) research on Covid-19

and consumer behaviour change shows that "Consumers are responding to the crisis in a variety of ways. Some feel anxious and worried, fuelling panic-buying of staples and hygiene products." According to a recent study conducted on consumer panic in the Iraqi Kurdistan Region, the study shows that social media has a significant impact of panic buy and in which fake news and misinformation have an immediate and massive impact on individuals during COVID-19 pandemic. (Ahmad & Murad, 2020)

With the outbreak of COVID-19 many people around the world experienced fear that world is at the brink of an economic downturn. Yet, by now April, 2020 a two-month time while COVID-19 has become a pandemic. There are obvious economic losses and financial downturns, not only in China but worldwide. Since the outbreak of COVID-19, people have become concerned about shopping their essentials. As Solomon et al. (2013), stated that "consumers' evaluations of products are affected by the appearance, taste, texture or smell of the item." With the outbreak of COVID-19 drastic change in consumer behaviour is experienced. According to a Shopkick survey consumers are more aware about their spending and shopping, thus throughout the year, they plan to tighten spending, as 52% consumers said they proceed with caution and will keep spending low, while 19 percent of people say they have been hit hard by the Covid-19 pandemic. In addition to that Ferrell et al. (2021), emphasized that COVID-19 has changed day-to day consumer behaviour and preferences.

In the context of COVID-19 not only the preference of buying has changed but also the amount that a customer wants to purchase, has also changed. As Tam (2020) adds that "56% of consumers prefer to spend less and are only buying what they need, given the current landscape." This change is associated with fears like long-term effects of being out of work,

lack of financial means, salaries, unemployment and other financial fears that customers consider.

One of the most important findings is that consumers are more concerned with meeting their daily needs than with purchasing luxurious items. Food and hygiene products are at the top of the consumer's priority list in the current pandemic. Brand purchases have taken a back seat in current purchasing behaviour, with general decisions dominating the consumer's purchasing choices and preferences. In normal times, many consumers are rigid in their behaviour because they care about quality, quantity, brand, and confidence in what they buy, but this is not the case during COVID-19, which is similar to other crises. Consumers all over the world exhibit similar shopping and purchasing behaviours. In contrast to previous studies, this study demonstrates that consumers now have preferences for similar products around the world, such as sanitation and eating products, demonstrating a global consumer identity during the crisis. Foxall (1993) highlights the fact about "consumer interest as 'getting it right' while trying new products and they are cautious and take time to deliberate before deciding." Yet this is not in line with the current situation as consumers have limited time, access and resources to think and while being cautious, as consumers' attitude is affected by external and internal factors.

2. Review of literature

The subject of shopper behaviour is one amongst the greatly contemplated points by the researchers and advertisers before and heretofore being thought-about. Analysts show varied reasons with regard to why shopper behaviour has been the topic of diverse scholastics and specialists. Rabolt and Solomon (2004) have addressed shopper behaviour because the study processes during which people or teams choose the acquisition, use, or get rid of merchandise, services, ideas, or

experiences to satisfy desires and wishes. Likewise, Kardes (2002) considers "the shopper, the buyer, the patron" behaviour because of the study of consumer response to merchandise, services, and the selling of merchandise and services. One amongst the essential views is that understanding shopper behaviour has become an element that directly affects the final execution of the organizations (Kotler, 2012).

One of such investigations of client purchase behaviour has been studied by Acebron et al. (2000), seeks to grasp the impact of previous expertise on getting behaviour of food, particularly mussels. During this study, the man of science adopted a structural equation model therefore on acknowledge the association between the propensities and past expertise on the client getting selection. Their findings show that individual propensities and past expertise play a crucial role in shopping for behaviour. They to boot found that the illustration of the item crucially affects the shopping for a selection of the patron and additional instructed that the item image needs to be persistently improved therefore on support the consumer's shopping for selections.

The consumer's higher cognitive process has been characterized by 5 totally different stages. Numerous specialists supply very different propensity towards the meanings of 5 phases. Everybody has basic views as they portray the phases in a comparative manner. Blackwell et al. (2006) have offered one in each of the regular models of vendee dynamic procedure. As per him, the 5 phases of the client deciding process square measure the following: problem/need recognition, info search, and analysis of alternatives, purchase selections created, and post-purchase analysis.

Each stage is then characterized by marginal changes. However, prompting a typical read concerning what every stage includes. For example, as per (Bruner,

1993) throughout the primary stage, there's would like acknowledgment wherever a private perceives the distinction between what they need and what they need/need to possess. This read is to boot upheld by Neal and Questel (2006) expressing that require acknowledgment happens owing to a number of parts and conditions, for instance, individual, skilled and approach of life that so result in the development of the thought of shopping for. Within the following stage, the client surf info known with the needed product or service (Schiffman et al., 2007). The info search procedure is as internal additionally as external. Whereas internal refers to the procedure wherever customers rely on their own encounters and accept it because it is. The external inquiry includes a wide hunt of data, which includes tending to the media and promotions or taking awareness of inputs from others (Rose, 2009).

When the pertinent info concerning the merchandise or service is received, the consequent stage follows which incorporates breaking down the opposite choices. (Kotler, 2012) think about this section joined of the many stages because the buyer considers all kinds and selections considering the elements, for instance, size, quality, and what is more worth. Backhaus et al. (2007), counselled that purchase call is one among the many stages as this stage alludes to the event of an exchange. At the top of the day, once the buyer perceived the requirement, sought pertinent knowledge, and considered the alternatives when that he/she decides whether or not to decide on the selection or not. Buying call will to boot be separated into the planned purchase or AN impulsive purchase as expressed by (Kacen & Lee, 2002) which can be talked concerning more intimately within the following sections. Finally, post-purchase call includes the understanding of the buyer concerning their purchase. In spite of the very fact that the importance of this stage is not featured

by various creators Neal et al. (2006), contend this is often perhaps one among the foremost vital stages within the shopper higher cognitive {process} process because it directly influences the customers' acquisition of an analogous product or service from an analogous supplier anon.

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Consumer panic has become a pervasive aspect for buying behaviour during COVID-19 pandemic. A concise review of literature of COVID-19 is yet limited due to various factors such as economics, social, and financial. According to King (2020), "consumer behaviour has been forced to change immediately, and change on a massive scale." From the same view, consumer behaviour change was expected due to panic and fear of shortage and access to necessities people need.

Currently, few brands have opportunity to advertise, as COVID-19 measures, stricter social distancing, quarantine, isolation, curfew limit people and lockdown of people influences the markets on a large scale. Webster (2020) mentioned in his article "the Americans for the period of March 12 to 15 of 2020 had experienced empty grocery store shelves and binge-buying of toilet paper and hand sanitizer." There are two things that changed in consumer behaviour due to COVID-19; first, the option for what they buy and second, how they buy their essentials.

Webster added that people keep distance and stores too take precautions. There seems to be a vocal point in span of the 3 months of COVID-19 pandemic as consumer behaviour towards brands looks to shift and the market is concerned about this. The shifts could be in the type of information and service that the brands need to communicate to consumers (Pelosi, 2020). Whistle, Ho et al. (2020), has studied the Chinese consumers' attitude in post-COVID-19, in which it is indicated, "the Chinese consumers will regain their confidence and resume higher levels of spending in some categories over the coming months." They studied 2,500 Chinese consumers in February-March 2020. Buckle added more to the argument on consumer behavioural change and sentiment while referring to optimism as a crucial factor for people in navigating through crisis. It is also estimated that the post-Covid-19 era could be reshaped by factors including fear, new isolation induced habits, and retailer's behaviour as well (Howland, 2020). Moreover, "if retailers have customer demographics, then noticing the change in behaviour and reduced spending in this period to be better analyzed in planning new communication paths" (Wallis, 2020).

2.1. Factors Influencing Consumer Buyer Behaviour

It has been engineered up that the {buyer, the patron} shopping for behaviour is that the results of requirements} and desires of the client and that they buy to fulfil these necessities and desires. Despite the very fact that it sounds basic and clear, these necessities may be completely different relying upon the individual factors, for instance, age, science, and private character. Likewise, there square measure another external component that square measure on the far side the buyer's ability to manage. Consultants do varied studies and researchers on recognizing and breaking down those elements influencing the consumer's shopping for behaviour

and later on, very different varieties of components are distinguished. These variables are ordered into varied sorts and classifications in varied manners by varied researchers. For instance, Wiedermann et al. (2007), characterized them into internal and external factors. Then again, Winer (2009) divided them into social, individual, and psychological factors. However, the approach that they need been ordered into varied classes by varied researchers they are comparable in scope and reason (Rao, 2007).

There is a good scope of components that may influence client behaviour in varied manners. These elements square measure separated by Hoyer et al. (2012) into four general classes: situational, personal, social, and cultural factors. As declared by Rook (1987) that widespread analysis has been done on impulsive shopping within the early Fifties that was essentially done to explore the shopping for choices of the shoppers once getting into the looking places. The DuPont studies hypothesized that largely impulse shopping was a hit or miss purchase. This description typically discusses the distinction between a buyer's total looking at the top of the looking trip as compared to the things listed within the supposed list ready for looking before the acquisition. Many studies consequently investigated the rates of unplanned "impulse" purchases across {different totally different completely different} product classes (Applebaum 1951; herbaceous plant 1950; Katona& Mueller 1955; West 1951) and among different settings (Clover 1950; client shopping for Habits Studies 1965).

Situational factors poignant customer behaviour could incorporate space, condition, temporal arrangement likewise adjust conditions (Hoyer, 2012). Therefore, on profit by situational factors, vital retailers endeavour to develop conditions and circumstances in stores that propel the acquisition choices. Scope of accessible ways in which to accomplish

such a result keep in mind enjoying restful music in stores, making renewing fragrance in stores and setting bread and milk things generally stores towards the furthest fringe of stores to encourage the development of shoppers at some point of the shop to create additional buys then on. Batra (2008) mentions the impermanent plan of situational factors. The private factors incorporate style inclinations, individual financial conditions, and connected elements. The result of individual factors on purchase dynamic is generally cared-for by organizations throughout market segmentation, targeting, and positioning by grouping individuals supported their own conditions aboard different criteria and making things and administrations that oblige these conditions within the best approach.

As per Hoyer et al. (2012), social factors, poignant client conduct emerged as a result of collaborations of buyer's decisions with others at totally different levels and conditions. Specializing in individuals was seen as the sentiment that demonstrates compelling methodology once highlighting merchandise and services because of the potential of supposition pioneers to affect the conduct of various individuals as purchasers. Finally, cultural factors influencing client behaviour square measure known with culturally numerous contrasts among shoppers on close and worldwide scales. Culture may be characterized because of the ideas, customs, and social behaviour of specific individuals or society (Oxford Dictionaries 2015), and the inclination of globalization has created it necessary for multifarious contrasts among shoppers to be thought of once problem solving and conveyance of title advertising messages. Selling a mixture of 4Ps is one in all the many ideas within the field of promoting and each individual element of promoting mix may be embraced as AN instrument therefore on influence client conduct. Significance of the selling combine may be processed

such “successful selling depends on customers being responsive to the merchandise or services on supply, finding them accessible in favourably deciding that practitioners of the giving in terms of each value and performance” (Meldrum, 2007). Leading business in the midst of COVID-19 pandemic has been a serious challenge for firms to produce, sell and reach out to customers, while for customers in general the main purpose has been surviving and content with the essential needs. Whistle firms need to keep financing their production and keep adjusting their marketing strategies. As Kotler (2012) pointed out on strategies to win and has included wining through adaptation and customization, in which buyers want the seller to modify his offering to contain special features or services they need. More importantly, he added that for today's marketing clichés the winning company is one that consistently exceeds customer expectations. Prior to COVID-19 pandemic people cared about brands, while in the recent few years only two main disciplines of marketing are effective including product management and customer management, while brand management got less priority for costumers due to the main economic concerns that COVID-19 has brought about. (Kotler et al., 2010).

The following hypotheses have been elicited from the literature review to be tested in the context of this study. From the studied literature, we can assume that there is a significant relationship between consumer purchase behavior and the purchase due to fear of running out of available stock, irrational purchases, panic purchases and hoarding of essentials. There is a significant relationship among the five variables that is fear of missing out, ruthless buying, irrational buys, hoarding of essentials and fear of shortage.

The following hypotheses have been elicited from the literature review to be

tested in the context of this study are as follow:

1. H1: There is a significant relationship between consumer purchase behavior and the purchase due to fear of running out of available stock.
2. H2: There is a significant relationship between consumer purchase behavior and their irrational purchases.
3. H3: There is a significant relationship between consumer purchase behavior and hoarding of essentials for future.
4. H4: There is a significant relationship between consumer purchase behavior and panic purchases.
5. H5: There is a significant relationship between consumer purchase behavior and hoarding of essentials due to fear of shortage
6. H6: There is significant relationship among the five variable that is fear of running out of available stock, irrational purchases, hoarding of essentials, panic purchase and fear of shortage.

3. RESEARCH METHODOLOGY

For this research, an online questionnaire-survey was the main tool for understanding consumer behaviour during COVID-19 pandemic. The study has focused on understanding the behaviour of consumer during COVID-19 pandemic. The study was majorly focussed on understanding how consumer choose, prefer, and decide to buy the products during COVID-19 outbreak. The study was focussed on understanding the changes in their purchase pattern and the impact of the situation on their purchase decision that the consumers have made.

4. RESEARCH OBJECTIVES, AND QUESTIONS

Research Objectives

The objectives of the study is to identifying the factors that influence buying attitude during COVID-19, assess the source of information and level of

awareness among the people about COVID-19 and to determine whether consumer behavior towards purchasing is being affected due to COVID-19. The study is focusses to evaluate if the pandemic has given rise to panic purchase and to examine the impact of COVID-19 consumers' personal attitudes during panic period.

Research Questions

1. RQ1: How is the COVID-19 outbreak affecting consumer-buying behaviour?
2. RQ2: Has COVID-19 encouraged the panic purchase amongst the people?

4.5 Quantitative Approach

All participants have completed the consumer behaviour during COVID-19 outbreak questionnaire through an online survey-questionnaire. The survey was created by the authors and incorporated a question for each measure that influences a potential buyer to perform a purchase containing 30 inquiries estimating fundamental choices and affecting elements. The study was conducted with a well-structured self-developed questionnaire with a sample size of 500 participants. The study is emphasized on heterogeneous group in terms of the age, gender, occupation, educational qualification and the country of origin. The data was collected for a period of 6 weeks from more than 40 countries around the world.

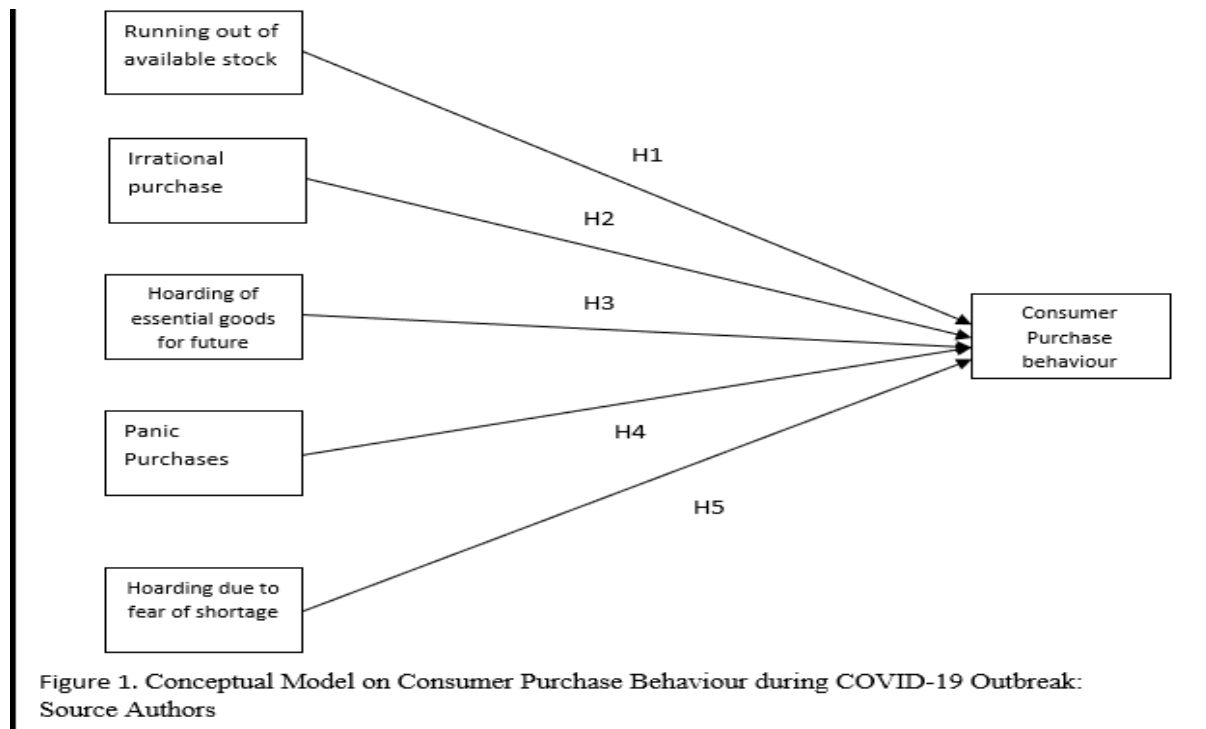
In this research, Smart PLS latest version 3.3.3 is used for descriptive and regression analysis of data collecting online survey method. This section is proposed to study the behaviour of consumer especially during COVID-19 outbreak. Cronbach's alpha score of reliability test is 0.902. Questionnaire was prepared through

google forms and circulated using electronic media. Consequently, non-probability sampling technique is used. The data is analysed by using Karl Pearson correlation and regression, conceptual model is framed, and hypotheses were tested. The questionnaire consists of 4 sections. Segment A comprised of respondent's age, gender, educational qualification, occupation, marital status and country of origin. Segment B to Section D comprised of questions identified with consumer awareness on COVID-19 and consumer behaviour during COVID-19 outbreak. To understand the awareness level; questions identified with consumer behaviour was inquired utilizing Seven-point Likert scale {where 7 = Strongly Agree; 6 = Agree; 5= Somewhat Agree, 4= Neutral; 3= Somewhat Disagree 2 = Disagree; 1 = Strongly Disagree}. Further, clear measurements have been utilized to break down the information.

4.5.1 Survey Participants

As mentioned earlier, the data was collected from 500 respondents from more than 40 countries. The sample size was considered appropriate considering 90% confidence level. The respondents belonged to age group of 15 to over 70 years. Figure 3.1 shows the conceptual model developed by authors, which depicts the significant relationship between the various factors, which influences consumer behaviour during COVID-19 outbreak.

The 5 Endogenous (Independent) variables considered are Irrational purchases, Panic purchases, Hoarding of essential goods for future, Fear of running out of available stock, Hoarding due to fear of shortage which impacts on the exogenous (dependent) Variable Consumer purchase behaviour during COVID-19 Outbreak.



5. DATA ANALYSIS AND RESULTS

As it is mentioned, earlier 500 people have responded for this survey, in which 59% are male, 40% are female and 1% preferred not to mention. 30% of the respondents are from 21 to 30, 25% are from the age group of 31-40, 20% of the respondents are from 15 to 20 and remaining are from above 50 years of age. Educational qualification holds very important in terms of the buying behaviour, 50% of the respondents are graduates, 35% are undergraduates, 11% are doctorates and remaining are high school qualified individuals. It is observed that 39% of the respondents are employed, 35% are students, 14% are professionals and others are salaried, homemaker, students. It is observed that 60% of the respondents are single, 37% are married.

The findings of the research elaborate on the aspect of how consumer buying behaviour is investigated in a sense that people seek to get information on COVID-19 from TV channels, Social media and WHO. From this, it seems that the process of acquiring information also influences their behaviour in their options such as in

this phase of pandemic where essentials are; masks, gloves, hand soap, sanitizers and food. As the media has become a permanent voice in the communities in crisis's situation, drawn from the collected data, majority of respondents agreed that media has hyped the impact of COVID-19, which has promoted people to buy products for their maintenance, health and wellness, because COVID-19 is about life and safety of individuals. Moreover, people as consumers from our study indicated that food supply, sanitizers, toilet papers during this pandemic are their top priority needs.

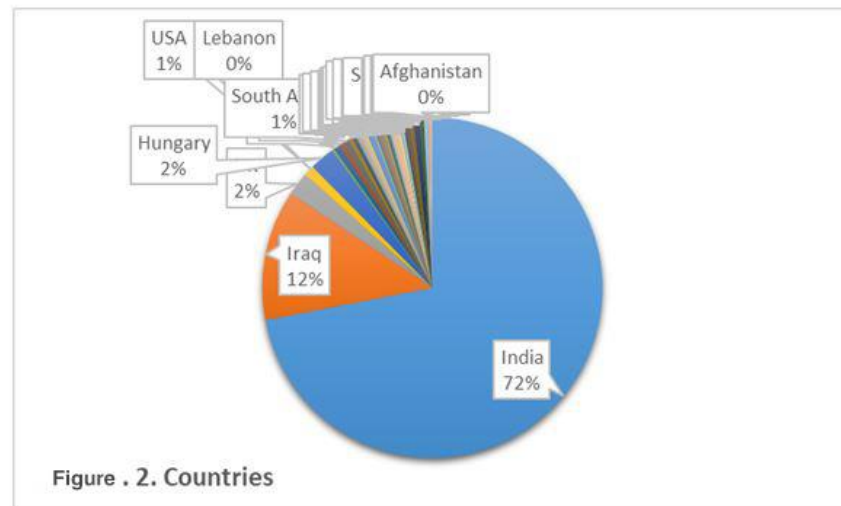
Based on the data, in times of uncertainty people enter panic zone that makes them buy items irrationally. The data shows that most consumers think in panic time they buy irrationally which shows that panic is an influential factor that affects consumer buying behaviour. Besides, people think that COVID-19 has created panic in a sense people rush to hoard essentials for the future; at the same time, consumers have purchase products just to meet their basic needs. In this sense, consumer buying behaviour is united with the fear of quarantine and shortage, in which people

purchase due to fear that there will be lack of possible access and availability of those essential products in the stocks in their respective countries. Besides, consumer panic, and fear, we have studied the consumer attitude towards products from three different countries from different continents (China, Iran and Italy), where China is the heart of COVID-19 outbreak and Iran and Italy were hit hard by it. Nevertheless, the study shows that consumer attitude did not change in buying products from those countries. Another important point from this study is

associated with consumer buying behaviour which is not changed during COVID-19 panic, is that people did not shift to online shopping, as it is mentioned people feared access and receiving them at a proper time while quarantine, curfew, and quarantine has slowed the process. In order to understand consumer-buying behaviour, this study sought to know about awareness of people about the COVID-19, and the outcomes indicate that majority of people are aware and that comes from active media engagement with government in COVID-19 phase.

Table 1. Demographic profile of Respondents

| | | Age | Educational level | Occupation |
|----------------|---------|-------|-------------------|------------|
| N | Valid | 500 | 500 | 500 |
| | Missing | 0 | 0 | 0 |
| Mean | | 2.95 | 2.71 | 2.32 |
| Median | | 3.00 | 3.00 | 2.00 |
| Mode | | 4 | 3 | 2 |
| Std. Deviation | | 1.416 | .699 | 1.515 |
| Variance | | 2.005 | .489 | 2.295 |
| Range | | 6 | 3 | 5 |
| Minimum | | 1 | 1 | 1 |
| Maximum | | 7 | 4 | 6 |



Validity and Reliability

For measuring the validity of the measurement constructs, the study assesses two validity measures e.g. convergent validity and discriminant validity (Hair et al. 2019; 2020). Convergent validity includes factor loadings ≥ 0.7 and average variance extracted (AVE) ≥ 0.5 while, discriminant validity includes cross-loadings which value should be higher than the loadings of another construct and Fornell-Larcker criteria ≤ 0.9 (Richter et al. 2020). Table 2 presents that factors loadings of six constructs were higher than the value 0.7 except one item of panic purchase (PP4=0.690) and average extracted variance (AVE) values were also higher than the threshold value 0.5.

Therefore, it was proved that there was good convergent validity. On the other hand, the cross-loadings of each construct items were higher than the loadings of the other constructs meanwhile, the value in Fornell-Larcker criteria of each construct was lower than the value of 0.9. So, there was also good discriminant validity of the constructs.

Moreover, the study assesses the composite reliability of the constructs. Table 2 exposes that reliability value of each construct was higher than the suggested value of 0.7 (Hair et al. 2020) so, there was also good reliability of the constructs. Finally, the validity and reliability were proved.

Table 2. Validity and Reliability of the constructs

| SCALES | STANDARDIZED LOADINGS | COMPOSITE RELIABILITY | AVE |
|--|-----------------------|-----------------------|-------|
| Consumer purchasing behaviour (CPB) | | 0.914 | 0.680 |
| CPB1 | 0.807 | | |
| CPB2 | 0.802 | | |
| CPB3 | 0.888 | | |
| CPB4 | 0.858 | | |
| CPB5 | 0.760 | | |
| Hoarding due to fear of shortage (HDFS) | | 0.840 | 0.637 |
| HDFS1 | 0.780 | | |
| HDFS2 | 0.815 | | |

| | | | |
|--|--------------|-------|-------|
| HDFS3 | 0.798 | | |
| Hoarding for essential goods for future (HOG) | | 0.925 | 0.714 |
| HOG1 | 0.745 | | |
| HOG2 | 0.886 | | |
| HOG3 | 0.875 | | |
| HOG4 | 0.868 | | |
| HOG5 | 0.842 | | |
| Irrational purchase (IP) | | 0.892 | 0.580 |
| IP1 | 0.728 | | |
| IP2 | 0.727 | | |
| IP3 | 0.775 | | |
| IP4 | 0.805 | | |
| IP5 | 0.766 | | |
| IP6 | 0.766 | | |
| Panic purchases (PP) | | 0.907 | 0.620 |
| PP1 | 0.752 | | |
| PP2 | 0.736 | | |
| PP3 | 0.786 | | |
| PP5 | 0.777 | | |
| PP6 | 0.834 | | |
| PP7 | 0.835 | | |
| Running out of availability of stock (ROAS) | | 0.910 | 0.628 |
| ROAS1 | 0.729 | | |
| ROAS2 | 0.848 | | |
| ROAS3 | 0.788 | | |
| ROAS4 | 0.821 | | |
| ROAS5 | 0.795 | | |
| ROAS6 | 0.768 | | |
| Notes: AVE = Average variance extracted | | | |

Table 3. Fornell-Larcker criterion

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|----------|----------|----------|----------|----------|----------|
| Consumer purchase behavior | 0.824 | | | | | |
| Hoarding due to fear of shortage | 0.581 | 0.798 | | | | |
| Hoarding of essential goods for future | 0.623 | 0.536 | 0.845 | | | |
| Irrational Purchase | 0.639 | 0.549 | 0.553 | 0.762 | | |
| Panic purchases | 0.581 | 0.613 | 0.584 | 0.563 | 0.788 | |
| Running out of available stock | 0.749 | 0.568 | 0.597 | 0.651 | 0.599 | 0.792 |

- RQ1: How is the COVID-19 outbreak affecting consumer buying behavior?
- RQ2: Has COVID-19 encouraged the panic purchase amongst the people?

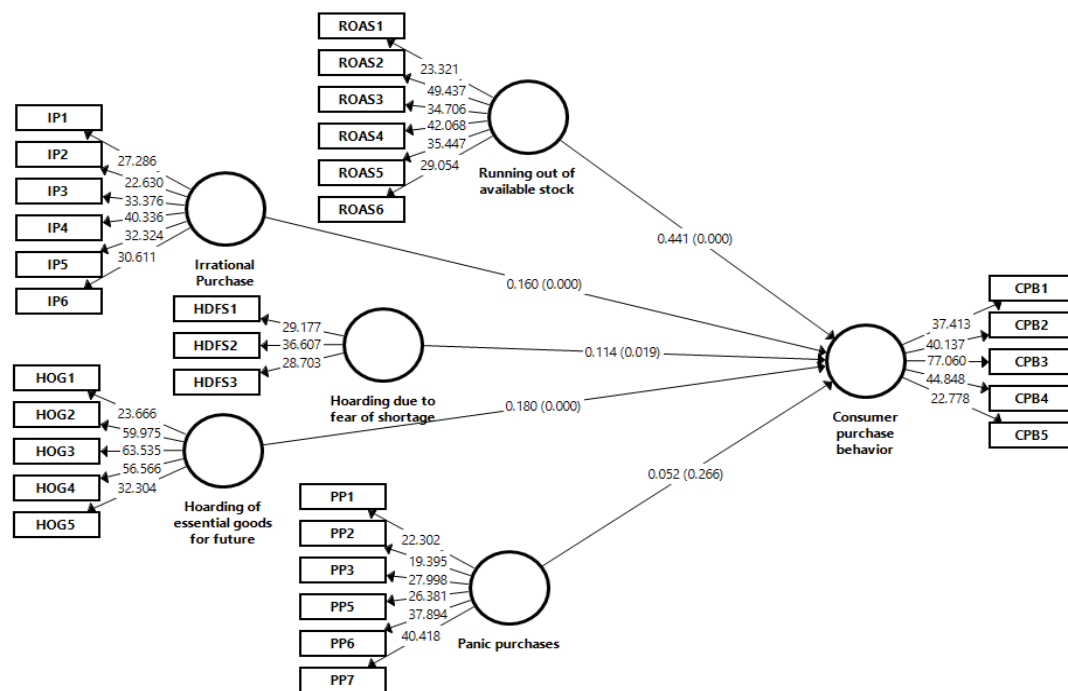


Figure 3. Path analysis model of association between five variables (fear of running out of available stock, irrational purchases, hoarding of essentials, panic purchase and fear of shortage

Note: The path analysis shows association between five variable that is fear of running out of available stock, irrational purchases, hoarding of essentials, panic purchase and fear of shortage (Exogenous variables) to Consumer purchase behavior. (Endogenous variable).

Table 4. Regression table

| | Original Sample (O) | S.E | T-values | P-Values |
|--|---------------------|-------|----------|----------|
| Hoarding due to fear of shortage -> Consumer purchase behavior | 0.114 | 0.049 | 2.344 | 0.019 |
| Hoarding of essential goods for future -> Consumer purchase behavior | 0.180 | 0.047 | 3.781 | 0.000 |
| Irrational Purchase -> Consumer purchase behavior | 0.160 | 0.043 | 3.740 | 0.000 |
| Panic purchases -> Consumer purchase behavior | 0.052 | 0.047 | 1.113 | 0.266 |
| Running out of available stock -> Consumer purchase behavior | 0.441 | 0.050 | 8.784 | 0.000 |

Note: N = 500, SE= Standard error

p<0.001

| | Original Sample (O) | Sample Mean (M) | 2.5 % | 97.5 % |
|--|---------------------|-----------------|-------|--------|
| Hoarding due to fear of shortage -> Consumer purchase behavior | 0.114 | 0.114 | 0.018 | 0.205 |
| Hoarding of essential goods for future -> Consumer purchase behavior | 0.180 | 0.179 | 0.083 | 0.274 |

| | | | | |
|--|-------|-------|--------|-------|
| Irrational Purchase -> Consumer purchase behavior | 0.160 | 0.162 | 0.080 | 0.249 |
| Panic purchases -> Consumer purchase behavior | 0.052 | 0.055 | -0.040 | 0.138 |
| Running out of available stock -> Consumer purchase behavior | 0.441 | 0.441 | 0.340 | 0.543 |

p<0.001

Based on the above Figure 2 and table 4. It can be interpreted that there is significant impact of consumer behaviour due to irrational purchases (b=0.160, t-value=3.740, p-value=0.000). So, the alternative hypothesis is accepted. The data shows that when people are in panic situation, there is not a significant impact on their purchases (b=0.052, t-value=1.113, p-value=0.266>0.05). It is observed that the insignificance value (P) is higher than 0.05 and Critical ration is below 1.96. Furthermore, it clearly shows that the customer may hoard the essentials for future during the COVID-19 outbreak (b=0.180, t-value=3.781, p-value=0.000), it can be interpreted that we succeeded to reject Null hypothesis. It is observed that there is not a drastic impact of consumer behaviour on panic purchases as P Value is 0.266 shows that there is not a significant effect, the alternative hypothesis is rejected. It can be interpreted that people did not make panic purchases during COVID-19 outbreak. It is observed that the Significance value (P) is higher than 0.05 and Critical ration is below 1.96, it clearly shows that the customer felt the fear of shortage during the COVID-19

outbreak (b=0.180, t-value=3.781, p-value=0.000), so there is an impact on consumer behaviour, we succeeded to reject Null Hypothesis. It is observed that there is an important impact of fear of running out of available stock on consumer purchase behaviour (b=0.441, t-value=8.784, p-value=0.000), as P Value is 0.000 shows that there is high significance, the alternative hypothesis is accepted. It can be interpreted that consumer purchase when they have fear of running out of available stock. Furthermore, there is a significant impact of hoarding due to fear of shortage on consumer purchasing behaviour (b=0.114, t-value=2.344, p-value=0.000), therefore, we can observe that we are able to accept alternative hypothesis for H1, H2, H3, H5 and H6, and failed to reject Null hypothesis for H4.

By assessing variance explained by five factors in consumer purchasing behaviour (Table 5). Five factors of hoarding due to fear of shortage, hoarding of essential goods for future, irrational purchase, panic purchases, and running out of available stock explained combined variance (64.1%) in consumer purchasing behaviour during pandemic covid-19.

Table 5. R and adjusted R square

| | R Square | R Square Adjusted |
|----------------------------|-----------------|--------------------------|
| Consumer purchase behavior | 0.641 | 0.636 |

Based on the figure we can interpret that there is a high significant relationship among the five independent variables i.e. fear of running out of available stock, irrational purchases, hoarding of essentials, panic purchase and fear of shortage, as the

values are more than 0.7. It clearly indicates that all these variables are interconnected, interrelated and interdependent.

6. FINDINGS

Based on a clear understanding of consumer buying behaviour in this study, few interesting findings are available. The consumer buying behaviour has changed drastically due to the effect of few key aspects during COVID-19 pandemic such as fear of running out of available stock, irrational purchases, hoarding of essentials, panic purchase and fear of shortage.

Consumer participants have shown that stockpiling and hoarding essentials and basic food items including bottled water, necessary grocery, cleaning products, toilet paper, and essential medicines have been their priority shopping items since the outbreak. This finding indicates that during February 2020, majority of respondents of the study have just purchased products including; sanitizers, soup, gloves and mask. Moreover, from the study sample, (324) respondents were aware about COVID-19, and participants sought pandemic-related information and updates on social media and TV channels parallel to the other sources of information. The COVID-19 hyped fear and panic among people, which has driven consumers to purchase irrationally, while there is no surprise that consumers are affected negatively and have experienced tough times in the span of COVID-19.

Another crucial finding from this study is associated with consumer buying behaviour in shifting offline shopping to online shopping to avoid visiting stores, and keep their isolation for their health well-being. The data indicates that consumers encountered other restrictions such as fear of access, quality, and receiving them in a proper time during lockdown period. In considering travel risks during COVID-19, approximately 419 participants of the survey emphasized that COVID-19 has created travel risk and people avoid travelling alongside social distancing.

Overall, during a pandemic, personal risk, and social risk are combined with economic risk, in which almost all people mentioned that many consumers have changed their buying behaviour in response to the COVID-19. Our understanding concludes that the consumers in the phase of COVID-19 are scared and aware about their needs and essentials in a sense they only spend their money on the necessary essentials. However, we think consumer buying behaviour has changed and the change will reverse in post-COVID-19 which means that the fear and panic is temporal.

7. CONCLUSIONS

In the context of marketing, purchasing is a serious concern for all consumers alike. There are many factors that influence consumers buying behaviour including; the need, motivation, desire, price, and quality, and more importantly in the midst of COVID-19 access to good and services have been the real concern. This study investigated buying behaviour of consumers during COVID-19 outbreak globally, where customers choose some products over the others, which were highly essential for customer's survival and matching the urgent needs. This is consistent with Marketing 3.0, which believes that consumers are complete human beings with needs and hopes that must be considered. During the COVID-19 crisis, markets around the world attempted to provide the necessary essentials to meet consumer needs and expectations. (Kotler et al., 2010). One of our intriguing final accomplishments is that consumer behaviour is subject to change, as fear, anxiety, trust, and feelings influence consumer behaviour during crises. In the future, it is critical to remember the main factors that influence consumer-purchasing decisions, such as demographics, personal characteristics, economic factors, social factors, and psychological factors. Cole (2014) defines formalised from all of the factors mentioned by Cole (Ibid), our

study concludes that psychological factors were the most influential on consumer behaviour during the COVID-19 pandemic. In addition to that this study adds consumer income as a vital factor for purchasing behaviour during COVID-19 since the pandemic has influenced unemployment and income drastically. Based on Lake (2009) if consumer's income decline, consumer seeks ways to save money, and reducing spending is one way of doing.

This study shows that there were significant factors influencing consumer-buying behaviour associated with COVID-19, such as fear, irrational, lack of access, shortage of essentials, and their health. Our findings indicate that consumers have been concerned about their necessities during COVID-19. Thus, they indicated that they purchased products such as sanitizers, masks, gloves, soup and food as their perennial needs. Besides, consumers in this study similar to the other people around the world were concerned about access, and availability, while price and quality for many people was not a problem. Combined with, Kardes et al. (2015) focused on behavioural responses of consumer's overt decisions and actions during the purchase, use and disposal activities of goods and services. Whistle, Reeves et al. (2020) confirmed that during a crisis, cognitive overload rooms, where information is incomplete, interests and priorities may clash, and emotions and anxieties run high. Indeed, it can be said that in the different phases of COVID-19, it has been difficult for consumers to easily define their priorities where safety, access and financing the needs have been identified as the most important factors that have affected their purchasing decisions, as our study has confirmed earlier. Another interesting aspect of consumer behaviour is addressed by Kardes et al. (2015) which is fundamental principle for marketing and achieving sustainable competitive advantage for

firms, is to understand the general dynamics of consumer behaviour that allows marketers to predict what motivates people to buy and then deliver products that respond to those motivations. This views is align with our research finding as during COVID-19 pandemic many companies have focused on producing masks, hygiene products, daily essential needs, this marketing strategy was a responsible respond to customers' needs and their motivation of safety.

To conclude, this study outcomes show that people in panic zone think about having their products. However, the findings of this study indicate that fear of running out of available stocks has a significant impact on consumer purchasing behaviour, which is in line with what Hoyer et al. (2018) have addressed as timing of consumer behaviour that affects perceptions of and attitudes toward time itself, where time affects consumer purchasing decisions, such as during the COVID-19 pandemic. To sum up, it is crucial to keep in mind that during a crisis all factors influence consumer behaviour while meeting the needs, satisfaction and access have been the main priorities for consumers in general.

Thus, in this phase, brands, quality, and to a great extent comfort of having what people require for their survival comes first. Overall consumer buying behaviour has changed during COVID-19 pandemic, as the size of the sample is 500 and from 40 countries where majority of respondents are from India, Iraq, Hungary, UK and USA. It is unfortunate that in many countries around the world, particularly in the developing world, the banking system, e-commerce, online-shopping and delivery capacities are too poor to support the consumers in obtaining their essentials during COVID-19 pandemic.

Study Limitations

This study similar to the other studies has some limitations. The first being that the people around the world at the moment are in the phase of panic and fear due to COVID-19 pandemic. Besides, we were expecting an equal or relatively similar participation from the 40 countries. However, this could be due to the time limits, the period of survey as well as many other factors.

Further Research

Based on the finding of this study, further research is recommended to extend the scope of consumer behaviour during pandemic phases especially for total lockdown cities where people encounter more fear and irrational and their behaviour changes in buying what they consume. Further research needs to address the other issues linked to COVID-19 pandemic, to closely deal with consumer buying behaviour and their personal experiences while including the various variables affecting their attitude. Besides, it will be highly important to measure consumer-buying behaviour repeatedly to see if consumer behaviour changes in post-COVID-19, and measuring the aftermath of the pandemic on buying behaviour. Studying consumer behaviour in the marketing context is very essential for firms therefore, we recommend studying consumer behaviour and its relation with time during crisis such as COVID-19, Economic Resections, Natural disasters etc. Furthermore, studying consumer behaviour and the effect of internal and external factors during COVID-19 will cover a lot in this field of study.

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