INFLUENCE OF UNCERTAINTY AND ANXIETY ON PANIC BUYING

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ABSTRACT

The aim of this research is to investigate the relationship between uncertainty, anxiety, and panic buying in Pakistan. This study has considered uncertainty as independent variable, anxiety as mediator, and panic buying as dependent variable, to explore the relationship among them. For assessing the relationship between study's variables, shoppers associated with apparel outlets of twin cities in Pakistan is the population finalized for data collection. A structured questionnaire based on five-point Likert Scale (representing 1 as "Strongly Disagree", 2 as "Disagree", 3 as "Neutral", 4 as "Agree" and 5 as "Strongly Agree") is adopted from Omar et al. (2021) and distributed among shoppers associated with apparel outlets of twin cities in Pakistan. 250 respondents (shoppers associated with apparel outlets of twin cities in Pakistan) are finalized through Morgan Table and questionnaires are distributed among them for data collection. Data collected from these respondents is analyzed through SPSS Software 21 with the help of statistical tests (correlation, regression, and mediation analysis). Correlation and regression analysis has proved the significant relationship among uncertainty, anxiety and panic buying in Pakistan, accepting H1, H2, and H3. Finally, mediation analysis has proved the significant mediating effect of anxiety in relationship among uncertainty and panic buying in Pakistan, accepting H4. Therefore, findings have proved that increase in uncertainty increases anxiety and panic buying, and increase in uncertainty also increased anxiety among shoppers associated with apparel outlets of twin cities in Pakistan. Finally, findings have also proved that increase in anxiety of customers further strengths the relationship among uncertainty and panic buying in Pakistan.

Key Words: Uncertainty, Anxiety, Panic Buying, Buying Behavior, etc.

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<div align="right">Saad Ahmed</div>

Table of Contents

Chapter 1

INTRODUCTION

1.1 Background of the Study

The Spanish Flu, otherwise known as the Spanish Lady or La Grippe, was an influenza pandemic that caused one of the deadliest epidemics in modern history. In 1918 and 1919, the flu spread from Europe to the Americas and then to the Pacific Ocean, rapidly spreading across most of the world except for some parts of Africa and Australia (Lins & Aquino, 2020). The first appearance of COVID-19 was reported in the United States in 2015 and since then, it has spread throughout the world infecting nearly 40% of the population. COVID-19 can be transmitted person to person by coughing or sneezing or through sexual intercourse or contact with bodily fluids. When an individual has been infected with COVID-19, he/she will have flu-like symptoms including sore throat, fever, muscle aches, runny nose and fatigue that last 7–10 days (Sherman et al., 2021). Recently, the Center for Disease Control issued warnings about an uptick in the number of people who have become infected with COVID-19 (The Center for Virus Intiative), which has been dubbed the disease that won't die because of its ability to mutate and change forms almost instantaneously. It's these constant changes that make the virus so difficult to contain and understand, but scientists are working hard to track COVID-19's evolution and learn more about how it affects humans and other animals (Xiao et al., 2020).

This pandemic crisis has certainly caused the biggest recession after 2007-2008 financial crisis, even the developed countries have experienced the consequences of this pandemic issue. Developed economies are majorly affected by this issue, as GDP's of developed regions have significantly declined as a result of this pandemic crisis (Dickins & Schalz, 2020). In terms of health, all age groups have been affected by the coronavirus SARS-CoV-2, as rate of death in patients with comorbidities and older individuals have been on the higher side in comparison to others (Islam et al., 2021). With the recent outbreak of COVID-19 around the world, scientists are scrambling to understand how the virus works and how it has evolved since its initial emergence in April 2018 (Aljanabi, 2021). COVID-19, the newest strain of the influenza virus, has been infecting people all over the world since early 2018 and shows no signs of slowing down. With over 1,000 different mutations to its original form, many experts are concerned

about its potential to become even more deadly than it already is. Since its emergence in late 2018, the co-virus known as COVID-19 has spread rapidly throughout the planet, affecting the majority of its population and leading to widespread panic and confusion (Herjanto et al., 2021).

Pakistan instituted a lockdown in the final week of March 2020 after discovering the first COVID-19 case to ensure "social distance" via "home quarantine" in order to prevent the virus from spreading among the populace. Main aim for imposing a lockdown was to avoid the spread among population until a vaccination or successful treatment is not achieved by global health community (Arafat et al., 2020). Over the last few centuries, epidemics (e.g., the Spanish flu, the bubonic plague, influenza, Ebola, SARS, etc.) have been the main cause of changes in demographic and geopolitical situations by changing the pattern of travel, migration, use of technology, trade and urbanization (Çelik & Köse, 2021). The COVID-19 pandemic made it abundantly evident that its crises and effects will manifest at many levels on a long-term basis since it will have a profound impact on all aspects of our life. Challenges brought on by COVID-19 have affected the entire nation as well as the individuals (Putri et al., 2021). Although, the young generation is having slight risk because of their strong immune system, as they are facing minor health consequences as a result of this issue (Wijaya, 2020).

However, shoppers are still the victims that have greatly been affected by the first wave of this pandemic in starting five or six months of 2020. Meanwhile, this pandemic has greatly changed their normal life and more importantly, it has affected the development of their future (Barnes et al., 2021). Since 2019, brands all over the world have been facing issues in communicating with their consumers due to pandemic crisis. This pandemic crisis has significantly resulted in having adverse impact on the ability of brands to approach both potential and existing consumers. Communication between consumers and brands has been influenced due to pandemic crisis (Prentice et al., 2020). However, brands/companies are experiencing this challenge throughout the world and focusing on developing strategies through which they can overcome this barrier in communication. For improving the communication with the consumers, majority of the brands/companies have started taking initiatives regarding developing and implementing marketing communication mix in order to have better interaction with the consumers and to improve consumers' awareness regarding the products and services offered (Kaur & Malik,

2020). Though, majority of the successful multinational brands have been trying their best to cope with the pandemic crisis (Omar et al., 2021).

Coronavirus (COVID-19) is a global pandemic crisis which has transformed the strategies of marketing and advertising to be implemented by business firms (Loxton et al., 2020). Business firms are forced for rethinking about their promotional and advertisement campaigns for maintaining a steady network of communication with the consumer to generate income because this global disease has created uncertainty and anxiety among customers, leading to panic buying (Çelik & Köse, 2021). Despite of alarming health situation all over the globe, business firms are looking towards implication of aggressive marketing tactics for handling pressures of changing demand, fluctuating trends, increasing competition, increasing uncertainty & anxiety, and altering markets. Business firms are trying to figure out the best possible marketing strategy for promoting their products and services during this COVID-19 crisis (Taylor, 2021). Marketing communication between brands and consumers have been affected to certain extent because tools such as sales promotion, celebrity endorsements, direct marketing, etc., have been adversely affected due to limited mobility of people (Barnes et al., 2021). COVID-19 has led to unprecedented economic and public health concerns, which has completely transformed the way through which customers are buying products or consuming services, as their buying patterns are affected mainly due to uncertainty and anxiety caused as a result of COVID-19 (Arafat et al., 2020).

1.2 Research Gap

Throughout the world, several researchers have performed their studies concerning different aspects of consumer behavior, as majority of researchers have emphasized over identifying how different factors influences buying behavior and purchase intention of consumers (Putri et al., 2021). Similarly, few researchers have focused on exploring the relationship that exists between uncertainty and consumer buying behavior (Çelik & Köse, 2021). Referring to Barnes et al. (2021), anxiety is yet to be used as a mediating variable to investigate the relationship between uncertainty and panic buying, which itself is a research gap needed to be addressed. In addition, very limited research work has been performed concerning relationship between uncertainty and panic buying in Pakistan (Islam et al., 2021). Hence, this study aims to investigate the

relationship between uncertainty (independent variable), anxiety (mediator), and panic buying (dependent variable) in Pakistan.

1.3 Problem Statement

In this highly competitive business world, competition amongst service business firms is increasing with every passing day. To cope with it, numerous business firms are focusing on implication of effective business strategies through which they could handle issues relevant to consumers in a better way (Sherman et al., 2021). Since COVID-19 issue has taken place, consumers are having significant uncertainties relevant to pandemic situation, as their uncertainties are leading them towards panic buying (Xiao et al., 2020). As it is known, people are moving away from traditional lives and shifting towards COVID-19 or pandemic affected lives. Same is the case with buying, as traditional buying patterns are less visible and mostly replaced by behaviors such as panic buying (Çelik & Köse, 2021). Uncertain situation caused as a result of COVID-19 is forcing people to feel anxious, eventually leading to panic buying (Putri et al., 2021). When it comes to Pakistan, there has been a lack of awareness and understanding regarding the role of uncertainty towards influencing people to move towards panic buying (Omar et al., 2021). Therefore, this study focuses on assessing the impact of uncertainty on panic buying with mediating role of anxiety in Pakistan.

1.4 Research Question(s)

Following are the research questions of this study:

1. What is the impact of uncertainty on anxiety in Pakistan?

2. What is the impact of uncertainty on panic buying in Pakistan?

3. What is the impact of anxiety on panic buying in Pakistan?

4. Does anxiety mediates the relationship between uncertainty and panic buying in Pakistan?

1.5 Research Objectives

Based on the problem statement, this study aims:

- To assess the impact of uncertainty on anxiety in Pakistan.

- To identify the impact of uncertainty on panic buying in Pakistan.
- To find out the impact of anxiety on panic buying in Pakistan.
- To investigate whether anxiety mediates the relationship between uncertainty and panic buying in Pakistan.

1.6 Significance of the Study

This study focuses on assessing that how uncertainty impacts panic buying with mediating effect of anxiety in Pakistan. The significance of this study is for Pakistani business firms which desire to acquire a sustainable competitive advantage (Barnes et al., 2021). Findings of this study clarify the relationship between uncertainty, anxiety, and panic buying, as it helps business firms in Pakistan in taking care of uncertainty to avoid consumer buying issues such as panic buying (Islam et al., 2021). It also provides logical evidence about how important has been handling of consumer buying behaviors since the issues of COVID-19 has taken place. In addition, this study is significantly important for the marketers because it can add a valuable knowledge that how they can effectively reduce uncertainty of customers in order to influence them to take part in normal buying instead of doing panic buying (Sherman et al., 2021). Finally, this study is beneficial for marketing students and research students, as they will come to know about the importance of uncertainty and anxiety towards causing customers to go for panic buying (Xiao et al., 2020).

1.7 Thesis Structure

This research study is conducted with aim of assessing the impact of uncertainty on panic buying with mediating role of anxiety in Pakistan. This research study is divided into five chapters and concludes with a list of references and an appendix.

Background of the study, research gap, research questions, research aims, and research significance are all covered in Chapter 1.

An overview of the literature on uncertainty, anxiety, panic buying and the link between them is presented in Chapter 2.

The methodology is discussed in Chapter 3 and contains details on the study design, research method, unit of analysis, population, sampling, research instrument, data collecting procedure, data analysis tools, and so on.

The link between uncertainty, anxiety, panic buying is investigated in Chapter 4 using statistical tests (correlation, regression, and mediation analysis).

The discussion, conclusion, and suggestions based on the findings and outcomes of the current study are contextualized in Chapter 5.

Chapter Summary

This chapter covers the background of this study. It starts with the overview of uncertainty, anxiety, panic buying, and the relationship between them. The next section of this chapter focuses on examining the research problem associated with this literature, which aids in establishing the problem that will be addressed in this study. Following that, depending on the research challenge described previously, this chapter provides the study questions and objectives. The significance of the research is also emphasized.

<center>**Chapter 2**</center>

<center>**LITERATURE REVIEW**</center>

2.1 Previous Research

When you consider the many challenges involved in developing an effective vaccine, it's easy to see why so few vaccines have been developed in response to viral epidemics, such as HIV and Ebola that have emerged in recent years (Sim et al., 2020). Unlike bacterial diseases, which are caused by microbes that can be cultivated under laboratory conditions, many viral diseases are hard to replicate outside of their host organisms because they rely on the cells of living organisms to replicate and spread the disease. The latest strain of the influenza virus, commonly referred to as COVID-19, has been on the rise since the early 2000s. While there have been many well-documented cases of COVID-19 since then, there are still some that are curious about the virus and would like to know more about it (Putri et al., 2021). So, what exactly is COVID-19? How did it come to be? And how have we managed to keep it under control and contained? When COVID-19 first appeared at the end of 2017, it took scientists by surprise because it was so different from the viruses that had come before it (Aljanabi, 2021).

Symptoms of corona virus are variable, but some of the common symptoms are headache, cough, fever, difficulty in breathing, fatigue, loss of taste and smell. After exposure to the virus, symptoms started appearing in one to fourteen days (Dickins & Schalz, 2020). Noticeable symptoms are not developed in about 33% of patients. Among those patients who develop noticeable are further classified into three classes, 81% of them develop mild symptoms, 14% of patients develop serious symptoms (hypoxia, dyspnea, or only 50% lung are participating and working on imaging), while 5% of patients develop life threatening symptoms (failure of respiratory system, dysfunction of multiple organs). Serious symptoms are mainly developed in older people (Lins & Aquino, 2020). Some people experience long term effects after recovery, which leads to damage of their internal organs. In order to investigate the long term impacts of virus, multiple studies are underway (Xiao et al., 2020). Basically, symptoms are classified into three different groups, first one is cluster of respiratory symptom which includes fever, shortness of breath, sputum and cough; second one is cluster of musculoskeletal symptom which includes pain in muscles and joints, fatigue and headache; last one is digestive system cluster with

<center>11</center>

diarrhea, vomiting and pain in abdomen. In people without any disorders of ear, throat and nose, loss of smell and taste is associated with COVID-19 (Islam et al., 2021).

First isolated in Japan, COVID-19 causes respiratory symptoms including fever, coughing, and sore throat that generally last around two weeks and then go away on their own without requiring any medical treatment or antiviral medication. But it's what happened next that made researchers sit up and take notice: People who contracted COVID-19 didn't contract any other illnesses (Arafat et al., 2020). They didn't get influenza, pneumonia, or even a cold! What started as a simple flu virus mutated into something far more deadly, infecting any living organism it came in contact with, turning them into bloodthirsty zombies who want nothing more than to infect others and kill anything that tries to get in their way (Prentice et al., 2020). It can be hard to stay calm when the news reports that an untreatable, highly contagious disease has just arrived in your city (Wijaya, 2020). While it might be a good idea to stock up on supplies in case of emergency, you might do well to remember that people have always lived through pandemics – and the vast majority of them are still alive today. Keep reading to find out why panic buying during a pandemic may not be worth it after all (Kaur & Malik, 2020).

The Ebola virus has killed thousands of people in West Africa, and the World Health Organization recently declared that it's an international health emergency (Sim et al., 2020). As you can imagine, this terrifying news has worried people all over the world, and panic buying of hand sanitizer and other personal hygiene products has gone out of control in some parts of the United States, including COVID 19, where a local store manager told one resident that the shelves were empty as soon as they were stocked! But just how much better off are you really if you waste your money on these products? We've all seen it before (Herjanto et al., 2021). Whether it's the fear of Ebola or the fear of the bird flu, people tend to panic buy products that will supposedly help them survive any impending pandemic (Sherman et al., 2021). But are these products really worth the inflated price? In this research, we discuss the topic of panic buying during a pandemic and whether or not it really makes sense to spend extra money on items that you might not even need (Loxton et al., 2020).

Purchase intentions may change or be impacted by a number of variables, including historical purchasing patterns of consumers as well as other activities that influence purchasing choices,

such as information collecting, product and service appraisal, payment options, and overall purchasing experiences (Arafat et al., 2020). The packaging or any other aspect of the item or service can serve as a stimulus in a variety of circumstances. Additionally, a customer's desire to buy could be affected by their anticipation of a successful outcome. A product or service recommended by a respectable, reliable, and trustworthy person might have an impact on a buyer's desire to make a purchase. Customers' emotional ties to a brand, product, or service may influence them to change their buying patterns (Taylor, 2021). Additional aspects include things like costs related with the product or service, risks linked with it, and how the client perceives it. Additionally, acquire intention study demonstrates how friends, family, peer groups, sports, and general culture may influence a customer's propensity to buy a good or service or make a purchasing decision (Omar et al., 2021).

Due to the cautious action taken to stop the virus from spreading, COVID-19 has affected more than 1 billion people and 575 million customers in about 188 countries. Technology is the most ideal way for maintaining the shopping process operational in many nations throughout this COVID time after the temporary or permanent closure of shopping malls (Elik & Köse, 2021). Despite the difficulties, there are many advantages to switching from traditional buying methods to online shopping. This has created a significant potential for quick growth in digitalization, which would normally need time (Putri et al., 2021). Customers now have a wonderful possibility to obtain the required goods and services with less time and effort expended thanks to the shift to online shopping. The pandemic's emergence causes fear, jitters, and anxiety among many populations throughout the world (Xiao et al., 2020). Some consumers have speculated that variables other than COVID-19 may possibly have affected the amount of worry. The primary worries of the consumers are their inability to engage in online buying owing to their ignorance of the internet and technology, or their ignorance of the technological tools used for online shopping, in addition to the conditions brought on by social estrangement and self-isolation (Sherman et al., 2021).

2.2 Panic Buying

Experts have documented the different psychological responses that occur when an infectious disease outbreak begins such as dread, worry, despair, loss, guilt, irritation, isolation, and stigmatization, throughout the previous two decades (Aydınlıoğlu & Gencer, 2020). Researchers

may now investigate the psychological effects of panic purchasing, which were observed in numerous nations during the COVID-19 pandemic (Kemp et al., 2021). Panic is an emotional state that has a significant influence on a person's behavior. Fear purchasing is an insensible, socially undesirable, and irrational behavior that happens when a large number of customers gather daily necessities in times of uncertainty and panic to avoid an anticipated future threat (Çelik & Köse, 2021). The primary notion underlying panic buying is that people act impulsively, uncoordinatedly, and uncooperatively in stressful situations, causing them to panic (Singh et al., 2021). Uncertainty, fear, unusual shopping, and a laser-like focus on where products are acquired, are all hallmarks of panic buying (Chen et al., 2022).

Indeed, depending on the logic of hoarding activity, one must assess whether a buying behavior is a panic or rather preparedness for a tragedy during a pandemic (Leung et al., 2021). During the COVID-19 outbreak, it was observed that individuals purchased an excess of toilet paper, hand sanitizer, thermometers, and face masks. As a result, these needs were flying off store shelves in many countries (Arafat et al., 2020). As a result, a number of scholars have emphasized the need of comprehending the elements that drive panic purchase by consumers during a pandemic. According to the current research on stockpiling and hoarding, perceptions of risk, scarcity, dread of the unknown or uncertainty, coping behavior, social factors, and social trust are among the most important precursors to panic purchase (Gupta et al., 2021). According to Arafat et al. (2020), anxiety, worry, and a sense of scarcity are some of the most important antecedents to panic buying. More empirical research is needed, according to this study, to better understand the interrelationships between the antecedents of panic buying and the multiple features that mediate or influence the links between the predictor variables and consumer panic buying behavior (Arafat et al., 2020).

2.3 Theoretical Background

Psychological theories such as expectancy theory, reactance theory, and behavioral inhibition system theory are used to build the research model. According to the behavioral inhibition system (BIS) theory, people's brains have three distinct interconnected emotion systems: the fight-flight system, the behavioral activation system (BAS), and the behavioral inhibition system (BIS), all of which are activated by primary reinforces and stimuli (secondary reinforces) and control emotional behavior (Ling et al., 2020). People's worry, according to this theory, is

14

created by unpleasant stimuli that hinder them from functioning naturally and calmly. It goes on to suggest that when BIS emotion comes into touch with negative stimuli, it leads people to become nervous, encouraging them to structure their life around avoiding anxiety-provoking situations (Fu et al., 2021). According to the expectation hypothesis, a person's dread of danger and sensitivity to that risk object encourage them to take the appropriate steps to escape the fear stimulus (Barnes et al., 2021).

According to the idea, people's fear levels vary based on their expected negative outcomes and the susceptibility to unpleasant situations connected with anxiety or panic. As a result, it's critical to evaluate the role of response expectation in preventing anxiety disorders in people (Loxton et al., 2020). The reactance hypothesis is another psychological theory that attempts to explain people's behavior when they are threatened with losing their freedom (Aydınlıoğlu & Gencer, 2020). According to the concept, perceived risk to an individual's freedom develops a driving state aimed at regaining the affected freedom and preventing the loss of others (Kaur & Malik, 2020). There are distinctions between these three psychological theories from an objective standpoint. The expectation theory, for example, explores how the sensitivity of predicted fear objects effects people's anxiety, whereas the reactance theory describes how people's incentive to restore freedom is influenced by their perceived danger of freedom. Behavioral inhibition system theory also explains why people react differently in different situations (Taylor, 2021).

Despite the fact that all of these psychological theories are typically applied in the context of health, we used them to explain consumers' panic purchase behavior because psychological factors are thought to play a significant role in influencing consumers' anxiety and panic purchase behavior following the COVID-19 pandemic's outbreak (Çelik & Köse, 2021). The question of whether consumers' buying activity during a pandemic is catastrophe preparedness or panic purchase behavior is still being debated (Chen et al., 2022). According to the theories, consumers with a strong BIS emotion system are more likely to get apprehensive when confronted with negative stimuli such as uncertainty, perceived food shortage, and illness severity. As a result, their fear of catastrophic repercussions causes individuals to panic and buy large quantities of things in order to escape the anxiety-inducing circumstance. Furthermore, we believe that consumers' perceptions of a lack of control over a situation, as well as the

uncertainty connected with pandemics and the severity of infection with the COVID-19 virus, may contribute to a return to panic purchasing (Leung et al., 2021).

2.4 Uncertainty, Anxiety, and Panic Buying

One of the most essential characteristics of panic buying is uncertainty. These sorts of purchases occur when there is apprehension regarding the accuracy of future estimates (Çelik & Köse, 2021). According to Lins & Aquino (2020), uncertainty is a mental state that results from a person's cognitive knowledge that he or she is ignorant about something. The understanding of ignorance has an impact on people's attitudes, sentiments, and behaviors (Lins & Aquino, 2020). The recent COVID-19 pandemic has caused much speculation about how the virus began and what it will do to the world in the future (Arafat et al., 2020). While most of these questions remain unanswered, experts have been able to confirm that stress, anxiety, and panic buying are escalating the spread of the virus among consumers around the globe (Aljanabi, 2021). Both psychologists and pharmaceutical companies recommend that individuals dealing with COVID-19 talk to someone who can help them ease their anxiety, such as a psychologist or licensed therapist. There are many ways to cope with uncertainty during this time of crisis, but buying things is not one of them (Dickins & Schalz, 2020).

With the recent news of the potential COVID-19 pandemic, people have been buying up all kinds of masks, pills, and other products to prevent them from contracting the virus. Consumers are left wondering if these products really do their job or if it's all just hype and consumers should save their money for another use (Gupta et al., 2021). COVID-19 (pronounced covid nineteen) stands for Contagious Organism Virus Induced Delirium Nineteen. This virus affects the brain and causes various psychological side effects including extreme paranoia and panic as well as sudden bursts of rage or violence (Singh et al., 2021). Quarantine and other extreme measures have been found in the past to make patients feel more vulnerable than the sickness itself (Fu et al., 2021). Unexpected events, according to behavioral inhibition system theory, can affect people's subsequent conduct in unexpected situations by altering behavioral inhibition and neurological systems, which are strongly tied to fear and change (Kemp et al., 2021). Undoubtedly, the quick spread of the COVID-19 pandemic, the inability to develop a vaccine for the illness, and the decision to shut down many countries have had a negative impact on people's

mental health and caused some unrest and worry, which resulted in panic buying in consumer markets (Sherman et al., 2021).

The relationship between uncertainty, anxiety, and panic behavior has long been proven in the medical world (Herjanto et al., 2021). During the COVID-19 pandemic crisis, a recent study found concrete proof that increased uncertainty causes people to fear (Xiao et al., 2020). Moreover, several studies suggested that people's perceived inability to cope with uncertainty and pain may influence behavior like hoarding, stockpiling, or panic buying during a pandemic (Putri et al., 2021). Furthermore, studies have shown that during a pandemic or crisis, uncertainty causes worry. The word "perceived severity" refers to a situation in which individuals feel there will be negative consequences if they engage in or avoid a certain behavior (Islam et al., 2021). Individual severity judgments can cause anxiety, and it's one of the strongest predictors of behavioral change (Prentice et al., 2020). When people are faced with danger or uncertainty, they tend to focus more on the severity of the risk (Omar et al., 2021). In the medical field, it has been shown that the intensity of a perceived threat can lead to people taking extra safety precautions in order to avoid or avoid bad feelings (Ling et al., 2020).

The social media platform, COVID-19, has been used to spread false information about pandemic preparations and the likelihood of an outbreak in countries around the world, causing unnecessary panic and uncertainty among consumers (Arafat et al., 2020). This uncertainty and anxiety are contributing to unsustainable levels of panic buying, which can result in increased stockpiling of non-perishable goods or hoarding behaviors that exacerbate the pandemic preparedness emergency (Sim et al., 2020). No, this isn't the next season of The Walking Dead, but it might feel like it with the rising cases of COVID-19 pandemic (or the zombie virus) (Islam et al., 2021). This new disease spreads fast through intimate contact and possibly even airborne transmission (although scientists aren't 100% sure on that), and it has been reported in nearly every country in the world, even in locations without any prior outbreaks. So what causes this disease? Why are doctors at such a loss as to how to treat it? And what does any of this have to do with our social anxiety disorder? (Islam et al., 2021).

Following a substantial increase in COVID-19 cases, customers were seen stocking up on commodities across North America, Australia, and Europe, as well as Malaysia and Singapore (Arafat et al., 2020). Several research studies have connected unplanned or excessive shopping,

17

as well as substantial expenditure, to emotions, anxiety, other personality disorders, and environmental factors (Barnes et al., 2021). People have likened the coronavirus pandemic to the deadly 1918 Spanish flu outbreak, which killed an estimated 50 million people worldwide, and this has made them fearful. People react to these emotions by engaging in irrational conduct, such as accumulating household items. Perceived scarcity refers to a person's assumption that a product would become scarce due to unforeseen circumstances such as health issues (Islam et al., 2021). Researchers observed that perceived scarcity has a significant influence on a person's purchasing decisions in the retail context (Sherman et al., 2021). It can also make individuals anxious, leading to hoarding or panic buying (Çelik & Köse, 2021).

During the H1N1 pandemic in 2009, many people were eager to find out what the risks were and how they could protect themselves from infection (Putri et al., 2021). But when the pandemic failed to gain momentum and fizzle out within weeks like other flu outbreaks, many of these same people started buying protection supplies and medical gear as if there was no tomorrow – in some cases, spending hundreds or even thousands of dollars on products that weren't even actually effective at preventing infections (Xiao et al., 2020). Did they really need to panic buy? Is it really worth spending so much money on these products? Following news of the Ebola outbreak in the U.S., people nationwide are rushing to prepare themselves and their families, fearing that they could be next to die from the disease (Lins & Aquino, 2020).

While there have been cases of infection in New York City and Dallas, no new infections have been reported since September 2014, so this may be a case of pandemic panic buying. Before you start stockpiling water and gas masks, think about whether it's really worth it to buy things like face masks and sealed containers of water just because everyone else is doing it too (Xiao et al., 2020). A pandemic may seem like an unlikely possibility, but some of the most devastating infectious diseases in history have been caused by viruses—including smallpox, influenza, and SARS—and could make a return at any time. When faced with a pandemic, how likely is it that you'll spend your hard-earned money on food, water, and medical supplies? This article will address what panicking actually accomplishes and if it's really worth it in the end (Wijaya, 2020).

2.5 Anxiety as Mediator

Anxiety is a wide or nonspecific feeling of uneasiness that stems from emotions of unease, tenseness, anxiety, or apprehension over what could happen (Dickins & Schalz, 2020). It's a form of emotional reaction to stimuli that are either internal (cognitive) or external (environmental) (Herjanto et al., 2021). Anxiety is brought on by a mix of stress and the perception of a threat of a negative outcome, even if the threat isn't real (Aljanabi, 2021). It has the potential to make individuals perform uncomfortably, or it has the potential to boost their efficacy by promoting proactive actions (Prentice et al., 2020). Consumers who are worried are more likely to respond risk-aversely and to perceive ambiguous cues as dangerous. After the advent of the COVID-19 pandemic, the possibility of unfavorable effects may have prompted individuals to adopt severe steps such as panic purchasing to protect themselves from a bad scenario (Kaur & Malik, 2020).

According to studies, panic buying can help people cope with the anxiety that comes with uncertainty and other unpleasant feelings in a pandemic situation (Aydınlıoğlu & Gencer, 2020). A panic attack is induced by the dread of encountering another surprise attack, according to the Kemp et al. (2021). As a result, a panic attack forces a person to flee from a terrifying circumstance (Çelik & Köse, 2021). The behavioral inhibition system theory holds that unexpected occurrences have an effect on the neurological and behavioral inhibition systems that are linked to anxiety and can affect people's behavior in unexpected situations. Anxiety has been shown to boost the likelihood of customers making large purchases, according to research (Loxton et al., 2020). Consumers panicked and began hoarding supplies throughout the world as the COVID-19 epidemic broke out (Sim et al., 2020). Several researchers hypothesized that a person's intolerance of ambiguity, perceived severity, and perceived scarcity would impact a customer's anxiety, leading to panic buying (Gupta et al., 2021).

Additionally, it has been shown that anxiety influences how closely stress and depression are related (Fu et al., 2021). In their experimental investigation, Ling et al. (2020) found that anxiety affects the link between stereotype threat and purchase intention in a scenario involving an auto repair shop. Another study by Leung et al. (2021) found that anxiety affects how fear of the Covid-19 infection, intolerance of ambiguity, and a person's pleasant experience interact. According to Chen et al. (2022), anxiety mediates the impact of materialism on consumers'

compulsion to buy (e.g. importance and success). Experts claim that consumers may get anxious and increase panic buying to deal with their emotional distress because of the uncertainty surrounding the pandemic's duration, the risk of having restricted access to necessities, and the possibility of a supply chain breakdown (Chen et al., 2022). In light of the abrupt emergence of the COVID-19 pandemic, this study hypothesizes that consumers' perceptions of uncertainty, severity, and scarcity may affect their anxiety levels and, consequently, panic buying behavior (Singh et al., 2021).

2.6 Theoretical Evidence

Transformation of businesses will not only be limited to the way through which businesses are operating, as it will also influence the ability of businesses to develop and sustain themselves by growing their consumer base (Omar et al., 2021). The prime aim of business firms is to identify the most optimal ways for attracting consumers and promoting their products and services in an effective manner. Therefore, a business firm is having core emphasis on improving its promotional practices, marketing campaigns, and advertisement strategies for thriving in the future (Sherman et al., 2021). Marketers and business analysts have started paying attention towards exploring the effect of pandemic crisis on promotional practices, marketing campaigns, and advertisement strategies (Çelik & Köse, 2021). Some of them have even started providing recommendations to the business firms for handling this issue by improving their regulatory compliance programs for minimization of risks affiliated with marketing activities during COVID-19 issue (Lins & Aquino, 2020).

Advertising and marketing departments are currently having the challenge of overcoming this problem, as they are forced to be creative and introduce innovative marketing strategies and campaigns which will help the business firms to thrive within this new market conditions (Wijaya, 2020). For the business firms, this situation is all about handling the alteration in market caused as a result of economic instability and financial crisis all over the world (Xiao et al., 2020). Business firms have the challenges of coping with enhanced competitiveness, uncertain market conditions, overcoming potential risks, declining purchasing power of consumers, fluctuating market trends, etc. In addition, business managements are also obligated to introduce products and services which are good enough for meeting the consumers' needs in accordance to the current pandemic situation (Islam et al., 2021). Furthermore, business managements must

have to develop and implement creative and innovative strategic marketing campaigns and targeted advertising for attracting the potential consumers and retaining existing consumers. By doing so, these firms do have the chance of gaining competitive position and surviving within their respective industries (Barnes et al., 2021).

Since 2020, spending for advertisement and promotion has decreased significantly because of the major decline in revenue generation for majority of brands. Some of the brands also have to suspend their marketing practices primarily to save money and spend it on their business operations (Putri et al., 2021). Decline in income has certainly pushed even giant multinational companies to rethink/reevaluate their business strategies for controlling marketing expenses. While some of the businesses have refocused on cause-related marketing, mission-based marketing and purpose-driven marketing for better approaching to both potential and existing consumers (Arafat et al., 2020). Due to pandemic crisis, the use of social media has increased significantly. Hence, business firms have started focusing on utilizing this medium (social media advertisement) for promoting their products and services by creating awareness amongst social media users. As a result of increase in social media usage, majority of the brands are looking to design their marketing strategies in such a way that they are giving preference to the tool of social media advertisement (Aljanabi, 2021). Social media advertisement is certainly having a better chance of conveying message of the brand to the consumers (potential or existing) in the midst of pandemic crisis (Dickins & Schalz, 2020).

COVID-19 has adverse effect on most of the business firms, as they have to close or provide limited services to their consumers. Continuation of pandemic crisis is only resulting in disruption of corporate world. Despite of business firms trying to cope with this issue, they are yet even close to what they were generating before the arrival of COVID-19 (Kaur & Malik, 2020). During COVID-19, it is almost impossible for the business firms to gain the same success or enjoy same perks which they were enjoying before COVID-19. However, continuous efforts exerted by the managements of business firms have helped them in gaining some success, which was needed for their survival (Herjanto et al., 2021). For surviving within the competitive corporate world, marketing departments of business firms have to play a major role. Marketing department is such a functional unit which can make or break any firm through the strategies developed and implemented for promotion of products and services (Taylor, 2021). However,

marketing communication mix is the most important aspect for any business firm in the pandemic crisis, as business firms should focus on improving their marketing communication mix for better handling of their consumers even in pandemic crisis (Arafat et al., 2020).

Throughout the world, various researchers have already published several research papers involving different aspects of COVID-19 pandemic crisis, mainly focusing on the effects of COVID-19 pandemic crisis over environment, society, economy, and mental/physical health (Loxton et al., 2020). Majority of the research studies have certain limitations concerning consumers' purchase intentions and buying behavior when they face certain hurdles in the way of shopping. These limitations include (a) emphasizing mainly on a restricted number of aspects of a consumer's purchase intention, (b) considering a small sample size, and (c) data taken at early stages of pandemic crisis (Prentice et al., 2020). Indeed, majority of the research work is limited to consumers' lack of interest or financial resources for shopping purpose. However, few research studies have only paid attention on (1) single research field (e.g., consumers from USA, England, Croatia, and medical students from USA, Turkey, Saudi Arabia, Philippines, Mexico, and Iran) and (2) single consumer base (e.g., from North America: the USA; from Africa: Ghana; from Europe: Ukraine, Switzerland, Spain, Germany; from Asia: Vietnam, Saudi Arabia, Philippines, Pakistan, China, India) (Sim et al., 2020). Very few researchers have performed survey including consumer samples involving consumers from multiple countries or regions (such as Sub-Saharan Africa, Russia and Belarus, etc.) (Barnes et al., 2021).

The current outbreak of COVID-19 has created an epidemic of uncertainty in the lives of millions around the world, creating anxiety and panic buying behaviors that will only make the situation worse (Sherman et al., 2021). The virus spreads through respiratory droplets and its incubation period lasts between one and three days, but most people do not show symptoms until five to seven days after initial exposure to the disease. In this time frame, many people become worried about their health status due to uncertainty of whether or not they are infected with COVID-19 and try to find ways to alleviate their anxiety (Putri et al., 2021). With COVID-19 continuing to spread at an unprecedented rate, the threat of panic buying and hoarding seems more real than ever before. Recent studies have shown that anxiety levels tend to increase with the level of uncertainty surrounding COVID-19, which has led researchers to believe that this relationship may escalate the pandemic even further (Xiao et al., 2020). Of course, many people

affected by the virus are desperate for any sort of information about its transmission and/or symptoms, but many also express concerns about being infected themselves, especially in areas where infection rates are increasing rapidly (Elik & Köse, 2021).

Alternatively, the brands involved in the offering products and services via online mediums are worried about their capability and potential for using technologies to advertise their product in an effective manner for improving consumers' purchase intention in online shopping (Lins & Aquino, 2020). These concerns are reported by the brands which are not using online mediums in normal circumstances. It has been in different parts of world that the anxiety and stress level of customers have significantly increased by shifting from traditional mode of shopping to online shopping (Omar et al., 2021). The major hurdles in implementing and developing the online system for shopping in Kosovo is the ability of accessing online mediums as well as unsatisfactory level of integration of technology in the process of shopping (Islam et al., 2021). However, there have been no further estimations of the factors regarding the implementation of online shopping system since this approach is implemented in most of the developed countries. However, there are few research studied performed in recent past regarding factors related to the use of technology, technology integration and online shopping process (Arafat et al., 2020). The findings from previous research studied confirm that the factors related to the use of technology and technology integration can affect the consumers' willingness to use online mediums for shopping purpose (Dickins & Schalz, 2020).

Moreover, digitalization has provided support for the development of the online shopping system for adaptation of business strategies as well as marketing policies for supporting consumers, improving interaction with consumers, and supporting the consumers in showing activeness towards using online mediums for shopping purpose (Herjanto et al., 2021). In spite of the fact that many countries in the world has shifted their process of shopping from traditional to online shopping, various methods and levels are there for using technology that helps in achieving quality online or digital mediums to purchase the desired products and services at affordable price (Prentice et al., 2020). Developed countries are more focused on implementation of online shopping system to address the issue of closure of shopping malls as a precautionary measure against the viral disease (Arafat et al., 2020). Around the world, numerous researchers are focusing on the factors that help in integration of technology in online offering of products and

services by the brands. It is assumed that these factors have great impact on the use of technology for shifting the format of shopping from traditional to digital form (Kaur & Malik, 2020).

Majority of the developing countries are facing this issue and they are at the edge of destruction. A survey reveals the fact that there are about millions of people in most of developing countries which are not having limited resources because of their unemployment or underemployment, eventually resulting in lower intention towards using online mediums for shopping (Loxton et al., 2020). The unemployment in youth is increasing at a great rate in all developed and underdeveloped nations. According to the data collected by the Labor Force Survey in the years 2017-2018 for the age of people from 15 to 29, several trends are extracted as the unemployment of youth. At the present age, almost every second person in developing or underdeveloped countries is affected by unemployment or underemployment. For last two years, stress amongst people has increased significantly because of the changes that pandemic situation has brought, as lack of sufficient resources has been one of the major causes behind negative intention of consumers towards online shopping (Sim et al., 2020). Stress and anxiety as a result of limited resources are having drastic effects on psychological and physical health of people, eventually resulting in negative intention of consumers towards online shopping (Çelik & Köse, 2021).

More comprehensively, it can be said that financial stress could also have positive effect on customers, as stress imposed on a certain customer to certain extent which a customer can cope with. Mostly, financial stress imposed during pandemic issue exceeds the bearable limits and has a negative impact on the customers (Wijaya, 2020). Recently, financial stress is becoming an epidemic in the business environment across the globe. Significant research has been conducted by the researchers throughout the world addressing financial stress caused as a result of lack of sufficient financial resources possessed (Omar et al., 2021). As Islam et al. (2021) has suggested that support provided by the brands through offering of products and services at very affordable prices can result in reducing the financial stress experienced by the customers. Whereas, Lee et al. (2020) proposed that apparent assistance and support by the brands act positively in decreasing financial stress experienced by customers. In addition, Barnes et al. (2021) studied a link between financial stress and lower purchasing power of customers through a survey conducted over customers. However, situation that creates financial stress is part of existing

pandemic issue and will continue on causing financial stress if not handled appropriately by the authorities.

2.7 Theoretical Framework
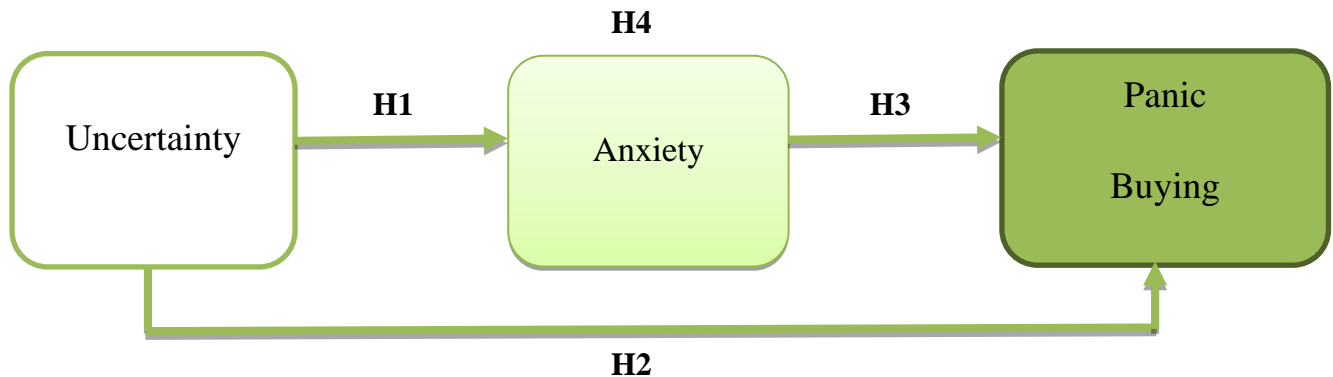
2.8 Research Hypotheses

Research hypotheses of this study are as follows:

H_1. Uncertainty has positive impact on anxiety in Pakistan.

H_2. Uncertainty has positive impact on panic buying in Pakistan.

H_3. Anxiety has positive impact on panic buying in Pakistan.

H_4. Anxiety significantly mediates the relationship between uncertainty and panic buying in Pakistan.

Chapter Summary

This chapter has presented review of the relevant literature on the constructs of uncertainty, anxiety, panic buying, and the relationship between them. Furthermore, this chapter has offered the theoretical framework based on the relationship between uncertainty, anxiety, and panic buying. The theoretical framework is then diagrammatically shown, followed by hypothesized correlations between the variables specified for empirical testing in subsequent portions of this thesis.

Chapter 3

RESEARCH METHODOLOGY

Introduction

For a researcher, it is necessary to design a methodology well equipped for their study which might be driven from or be different from other studies. Methodology creates logic for all the methods employed to conduct a study with the explanation for why these methods or techniques are used (Flick, 2015). Drawing on the previous reference this chapter aims to define the research methods and methodology applied for this research. It also explains the nature of the study, research approach, design, and the research tool. It further discusses the ability of data collection/research tools to produce results that answer the research questions. Furthermore, the chapter also discusses the sampling strategy and methods for data analysis, concluding with a brief account of ethical considerations. The chapter also highlights previous studies that use similar methods to research similar research areas. Taking on their knowledge this thesis makes informed choices for a systematic methodology to acquire, if not better, at least competing results.

3.1 Research Design

To accomplish the goals of the dissertation, a quantitative investigation is done. The main feature of quantitative research is that it works best with tiny samples and produces results that are neither quantifiable nor measurable. It offers a full portrayal and assessment of an inquiry issue without restricting the extent of the investigation or the solutions, which is its essential benefit as well as its main distinction from qualitative research (Kumar, 2019). For the aims of this study, quantitative method is used as research method. The study begins, according to this strategy, with a careful examination of the current literature on the issue and an examination of the existing competing viewpoints. This, however, generalize the results and findings based on observations. Moreover, quantitative research involves the employment of research question(s), identification of research area, data collection, and writing up its findings (McCusker & Gunaydin, 2015). To gather primary data for this study, the researcher has focused on a quantitative design amalgamating the techniques and methods of quantitative research. By using structured questionnaire as an instrument to gather the data, this study stages raw and unbiased

firsthand detailed information about the research topic. The need for quantitative research is partially due to the requirement of this study. Apart from being the researcher's field of interest, quantitative design was also a precondition for answering the research questions.

3.2 Research Nature

This research is correlational, meaning a study conducted when the relationship of research variables is new or less explored. A correlational study for the initial inquiry of the research problem is to create a platform for the forthcoming researchers (Snyder, 2019). The research questions for present research tend to assess the relationship between uncertainty, anxiety, and panic buying in Pakistan. Panic buying is the field of investigation in Pakistan; hence, the nature of present research is correlational.

3.3 Research Approach and Philosophy

This study employs the deductive approach where the philosophy implemented is positivism. Positivism philosophy under the deductive approach involves interpretation of the elements of study or simply a process to produce data from quantitative sources (Mohajan, 2018). In an deductive approach, the focus is on interpreting participants' perceptions about the buying patterns (Newman & Gough, 2020). Positivism denotes an approach that is different from Interpretivism. The interest or deductive approach is on distinctive and unexpected elements with a relative knowledge generation that is meaningful at the same time. Positivism also employs that the researcher and respondent interaction be cooperative (Pandey & Pandey, 2021). The research aims to find the relationship between uncertainty, anxiety, and panic buying in Pakistan, as deductive approach is used in present research.

3.4 Research Strategy

Survey strategy is the most extensively used method in any quantitative research. The procedure employed for this study is conducting a survey through a structured questionnaire, as this flexible methodology is preferred to gather primary data from a controlled sum of respondents to explore specific situations and ideas regarding a research problem (Basias & Pollalis, 2018). To grasp the overall vision of participants & perceptions, keeping a detailed set of interpretations is necessary. Since the participants are shoppers (customers), extracting information from a research strategy (such as interview) is not feasible. Customers as research respondents are tricky to handle, so it

was necessary to create an atmosphere of trust before distributing the formal research-related questionnaire. Moreover, all the questionnaires are filled differently because no two shoppers (customers) are alike, and each of them has their preferences when it came to uncertainty, anxiety, and panic buying.

3.5 Time Horizon

Present study is a cross-sectional study because it involves observation of data from a population at one specific point in time.

3.6 Research Locale

The locale chosen to conduct the research is twin cities (Islamabad and Rawalpindi) of Pakistan. Shopping Malls of Rawalpindi and Islamabad are finalized because Islamabad is researcher's hometown and the most convenient location for data collection.

3.7 Unit of Analysis

Unit of analysis for this study is individuals comprised of shoppers (customers) associated with apparel outlets of Pakistan.

3.8 Population (Universe of Study)

The population (universe of the study) is the set of all people, groups, or more specific units of analysis to which the researcher can generalize the research questions (Newman & Gough, 2020). The population of this study is the shoppers (customers) associated with apparel outlets in twin cities (Rawalpindi and Islamabad) of Pakistan. It is nearly hard for a study to collect data from every single person in the population. As a result, a sample is chosen to represent the total population.

3.9 Sample Size

To guarantee that the results are representative of the total population, a sample is a group of people or products selected to reflect the characteristics of the population (Kumar, 2019). Meanwhile, many tools (such as the Sample Size Calculator, Morgan Table, and others) are used to determine a representative sample of the population. Morgan's Table is used for finalizing the

sample of 250 respondents (shoppers) associated with apparel outlets of twin cities in Pakistan, as 250 respondents are finalized as sample to represent the entire population.

3.10 Sampling Technique

Sampling is generally known as the methodical selection of a few out of a bigger pool of that population (Basias & Pollalis, 2018). The sampling strategy commonly opted for in quantitative study is purposive. Purposive sampling is employed in this research based on the existing literature. Under quantitative research, it is a common strategy to sample the area and then the respondents. Data collection concerns are adequately addressed with this sampling approach, as it has unquestionably aided in the smooth gathering of data. Survey is performed without any hurdle, as purposive sampling has certainly played its part in smooth data collection process.

3.11 Research Instrument

A questionnaire adopted from Omar et al. (2021) is used for data collection. Adopted questionnaire is made simple and clear to convey purpose of distributing it and gathering authentic data. Adopted questionnaire includes questions related to demographics and all variables of this study (uncertainty, anxiety, and panic buying). All the items will be measured on the basis of five-point Likert Scale (mentioning 1 as "Strongly Disagree", 2 as "Disagree", 3 as "Neutral", 4 as "Agree" and 5 as "Strongly Agree").

3.12 Data Collection Process

Apart from literature content analysis, a survey through structured questionnaire is conducted for this study. For this study, existing research papers and official project reports are thoroughly studied alongside journals or news articles on the said subject. Questionnaires filled by the customers have provided a vast amount of data, as the sample size is relatively sufficient for this type of research. The bulk of the questions were physically distributed by the researcher, but a small number of questionnaires were also circulated via social media to ask individuals to take part in the study. The audience (respondents) would be better able to grasp the questionnaire and provide reliable answers if it is divided into several sections, which the researcher has done to make it simpler. For the convenience of the participants, questionnaires are made available in both electronic and printed forms. To further reduce any ambiguity or vagueness, the questionnaire includes simple and unambiguous instructions. Collecting data from customers

required a guided start and a structured questionnaire as a data collecting instrument; the process is more straightforward and less time-consuming. The data gathered through the survey is added in SPSS software for analysis purpose.

3.13 Data Analysis Techniques

The process of collecting, modeling, and analyzing data to derive information that supports decision-making is known as data analysis. Data analysis follows data collecting, and it involves running statistical tests (correlation, regression, and mediation analysis) on the information obtained from survey respondents. SPSS software is used to investigate the relationship among uncertainty (independent variable), anxiety (mediator), and panic buying (dependent variable) in Pakistan.

3.14 Ethical Considerations

The study contemplated all the ethical considerations of a research process, from shopping malls visits and customers' consent to collecting data from the customers through distributed questionnaires. During the research process, the identity of the researcher is not kept covert. Since the questionnaires clearly states early on, the introduction of the interviewer and the purpose of the interview, there are no ethics violated in terms of identity concealing. The participants are not forced to respond in a certain way, which is the beauty of a survey in the researcher's opinion. Moreover, the researcher tried his best to avoid all instances of biases in the data collection process and analysis. As far as the identity of the respondents is concerned, customers who are involved in data collection had to assure the consent for identity disclosure. It is strictly observed that the conversations between the respondents and the researcher involved no cursing or abusive language, even gestures are kept to assist a smooth process of data collection. The questioning is simple, and the language preferred for the conversation is English. However, a single question is elaborated several times to help the respondents understand. No customer is pressurized into answering questions or revealing information about their personal life, sexuality, ethnicity, or relationships. Moreover, no information about the customers' views on such crucial elements is disclosed to any third party, as the data is used only for research purpose.

Chapter 4

DATA ANALYSIS AND FINDINGS

Introduction

This chapter provides the results to the questionnaire and important findings related to the research hypotheses. The results obtained here are segmented into 2 different parts. The first part provides the assessment of demographics. Meanwhile, second part includes the analysis relevant to research hypotheses. The chapter concludes with important findings and key results at the end. In a survey, 250 respondents (Pakistanis) are given a standardized questionnaire and data is collected from them.

4.1 Data Analysis

4.1.1 Descriptive Frequencies

The questionnaire is divided into a number of categories to help with data dissemination since classification of the questionnaire makes it easier to understand the results. The demographic element of the questionnaire includes subsections on gender, age, education, yearly income, and frequency of visiting retail outlets. The following demographic data is also gathered from respondents to the questionnaire:

Descriptive Frequencies

Demographics		Frequencies	Percentages	Cumulative Percentage
Gender	Male	157	63	63
	Female	93	37	100
Age	Less than 30 years	75	30	30
	30 – 45 years	113	43	75
	More than 45 years	62	25	100

Education	Undergraduate	89	36	36
	Graduate	138	55	91
	Postgraduate	23	9	100
Annual Income	Less than 500,000	79	32	32
	500,000 – 1,000,000	117	47	79
	More than 1,000,000	54	21	100
Frequency	Rarely	32	13	13
	Occasionally	67	27	40
	Frequently	151	60	100

On the basis of gender, 157 out of 250 respondents (63 percent) are males. 93 out of 250 respondents (37 percent) are females. On the basis of age, 75 out of 250 respondents (30 percent) are below 30 years. 113 out of 250 respondents (43 percent) are between 30 – 45 years. 62 out of 250 respondents (25 percent) are above 45 years. On the basis of education, 89 out of 250 respondents (36 percent) are undergraduates. 138 out of 250 respondents (55 percent) are graduates. 23 out of 250 respondents (9 percent) are postgraduates. Based on annual income status, 79 out of 250 respondents (32 percent) are earning less than 500,000. 117 out of 250 respondents (47 percent) are earning between 500,000 – 1,000,000. 54 out of 250 respondents (21 percent) are earning more than 1,000,000. On the basis of frequency, 32 out of 250 respondents (13 percent) rarely visit outlets for shopping. In addition, 67 out of 250 respondents (27 percent) occasionally visit outlets for shopping. Finally, 151 out of 250 respondents (60 percent) frequently visit outlets for shopping.

4.1.2 Reliability Analysis

A questionnaire's dependability, consistency, and relevance may all be used to assess its reliability. The role of construct reliability is to further elaborate the confidence level of how

good the item measurements were taken from a sample representing the actual score in the population. The outer loading and particular cross loading that have been analyzed from construct reliability in which the outer-loading must be greater than 0.7 (Hair et al., 2014). For the complete factor study, Cronbach's alpha has likewise been calculated to be more than 0.7.

Reliability Statistics

Variable	Cronbach's Alpha	N of Items
Uncertainty	.738	6
Anxiety	.781	4
Panic Buying	.757	3
Total	**.757**	**13**

Reliabilities of the uncertainty, anxiety, and panic buying are 0.738, 0.781, and 0.757. Based on reliability statistics, Cronbach's Alpha scores (0.738, 0.781, and 0.757) are close to 1, suggesting that questionnaire and data collected through it are extremely reliable. According to reliability analysis, the questionnaire and the data it gathers have a Cronbach's Alpha of 0.757, indicating that they are extremely consistent and reliable. The analysis of the reliability analysis indicates that Cronbach's Alpha values of all variables are above the threshold limit as per the recommendations by Hair et al. (2014). Once the recommended results are attained, the study moved forward on testing the relationship between variables of the study.

4.1.3 Correlation Analysis

Correlation is the process of identifying how two or more variables are related.

Correlation

		Uncertainty	Anxiety	Panic_Buying
Uncertainty	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	250		
Anxiety	Pearson Correlation	.473	1	
	Sig. (2-tailed)	.000		
	N	250	250	
Panic_Buying	Pearson Correlation	.492	.453	1
	Sig. (2-tailed)	.000	.000	
	N	250	250	250

According to the findings, there is a mildly significant, positively skewed correlation between uncertainty and anxiety with a magnitude of .473. With a magnitude of .492 and a positive direction, there is a fairly significant positive correlation between uncertainty and panic buying. Similar to this, there is a somewhat significant correlation (a magnitude of .453 and a positive direction) between anxiety and panic buying.

4.1.4 Regression Analysis

The results of the linear regression analysis are presented in the following table.

4.1.4.1 Impact of Uncertainty on Anxiety in Pakistan

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.673[a]	.453	.448	.43816	1.836

a. Predictors: (Constant), Uncertainty

R-square reflects the variation that predicting variable (uncertainty) cause in the mediating variable (anxiety). R^2 indicates that uncertainty accounts for 45.3 percent variance in anxiety. The Durbin Watson value should fall between 0 and 4. The value of Durbin Watson is 1.836, which is excellent. On the other hand, adjusted R2 illustrates the theoretical model's fitness. The corrected R2 score is 44.8 percent, suggesting a 44.8 percent match for the theoretical model used in this investigation.

ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
	Regression	5.628	1	4.279	21.639	.000[b]
1	Residual	81.638	248	.361		
	Total	87.266	249			

a. Mediating Variable: Anxiety

b. Predictors: (Constant), Uncertainty

The F value is larger than 4 and the significance value is less than 0.05, according to the ANOVA findings. As a consequence, the theoretical model's statistical relevance is confirmed. According to ANOVA, uncertainty has a significant impact on anxiety.

Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	1.016	.238		2.816	.002
1	Uncertainty	.681	.074	.676	2.361	.001

a. Mediating Variable: Anxiety

Above table shows that uncertainty has positive impact on anxiety. In model, significance value of uncertainty for anxiety is less than 0.05 showing a significant positive relationship among them. Uncertainty (b = 0.681) is significant and the coefficient is positive, indicating higher anxiety is related to high uncertainty.

4.1.4.2 Impact of Uncertainty and Anxiety on Panic Buying in Pakistan

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.657[a]	.651	.424	.52731	1.854

a. Predictors: (Constant), Anxiety, Uncertainty

R Square indicates uncertainty and anxiety accounts for 65.1 percent variance in panic buying. Value of Durbin Watson is 1.854. Meanwhile, adjusted R^2 value is 42.4 percent, which indicates 42.4 percent fitness of theoretical model.

ANOVA

	Model	Sum of Squares	Df	Mean Square	F	Sig.
	Regression	7.241	1	6.183	25.072	.000[b]
1	Residual	81.027	248	.329		
	Total	88.268	249			

a. Dependent Variable: Panic_Buying

b. Predictors: (Constant), Anxiety, Uncertainty

The F value is larger than 4 and the significance value is less than 0.05, according to the ANOVA findings. As a consequence, the theoretical model's statistical relevance is confirmed. According to ANOVA, uncertainty and anxiety have significant impact on panic buying.

Coefficient

	Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	1.216	.201		3.261	.002
1	Uncertainty	.516	.083	.509	2.879	.001
	Anxiety	.218	.061	.213	2.163	.002

a. Dependent Variable: Panic_Buying

In model, significance value of uncertainty and anxiety for panic buying is less than 0.05 showing a significant positive relationship among them. Uncertainty (b = 0.516) is significant and the coefficient is positive, indicating higher panic buying is related to high uncertainty. Anxiety (b = 0.218) is significant and the coefficient is positive, indicating higher panic buying is related to high anxiety.

4.1.5 Mediation Analysis

Direct and Indirect Effects of Uncertainty on Panic Buying

H4: Anxiety significantly mediates the relationship between uncertainty and panic buying in Pakistan.

	Effect	SE	t-value	p	LLCI	ULCI
Direct Effect of U on PB	.3378	.0485	2.2816	.0000	.2016	.4812
Indirect Effect of U on PB	.5381	.0536	2.6916	.0000	.3813	.6859

Uncertainty is a strong predictor of panic buying, according to the findings, B =.5381, SE = .0536, p<0.05. After adjusting for anxiety, uncertainty is no longer a significant predictor of panic buying, B = .3378, S.E = .0485, p<0.05, indicating partial mediation. The value of R for indirect impact is 0.5381, indicating that the mediating variable has a 0.5381 unit influence on the relationship (R^2 = 0.5381). The indirect effects were determined to be substantial. This indicates that anxiety has a 0.5381 percent mediation effect on the connection between uncertainty and panic buying.

4.2 Data Findings

Data Findings

Hypothesis	Statement	Accepted/Rejected
H1	Uncertainty has positive impact on anxiety in Pakistan.	Accepted
H2	Uncertainty has positive impact on panic buying in Pakistan.	Accepted
H3	Anxiety has positive impact on panic buying in Pakistan.	Accepted
H4	Anxiety significantly mediates the relationship between uncertainty and panic buying in Pakistan.	Accepted

Chapter 5

CONCLUSION AND RECOMMENDATIONS

5.1 Discussion

The prime aim of present research is to assess the impact of uncertainty on panic buying with mediating effect of anxiety in Pakistan. This study has considered uncertainty as independent variable, anxiety as mediator, and panic buying as dependent variable, to explore the relationship among them. For assessing the relationship between study's variables, shoppers associated with apparel outlets of twin cities in Pakistan is the population finalized for data collection. Meanwhile, a structured questionnaire adopted from previous research studies is distributed among 250 respondents (shoppers associated with apparel outlets of twin cities in Pakistan) to collect data in the form of customers' perceptions regarding uncertainty, anxiety, panic buying, and the relationship between them. For acceptance and rejection of research hypotheses, scale of significance level finalized for this research is 5% (0.05), as significance level below 0.05 shows that relationship among variables is significant and hypothesis is accepted. On the contrary, significance level above 0.05 indicates the rejection of hypothesis. Findings of the study have shown that significance level of uncertainty for anxiety is less than 5% (0.05); therefore, hypothesis 1 (H1) is accepted and relationship among uncertainty and anxiety is proved significant. In addition, findings have also shown that significance level of uncertainty and anxiety for panic buying is less than 5% (0.05); therefore, hypothesis 2 and 3 (H2 and H3) are accepted and relationship among uncertainty, anxiety, and panic buying is proved significant. In addition, findings of present research (correlation and regression analysis) have proved the significant relationship between uncertainty, anxiety, and panic buying in Pakistan. Finally, mediation analysis has proved the significant mediating effect of anxiety in relationship among uncertainty and panic buying in Pakistan, accepting hypothesis 4 (H4).

5.2 Conclusion

The aim of this research is to investigate the relationship between uncertainty (independent variable), anxiety (mediator), and panic buying (dependent variable) in Pakistan. This research is conducted to address the gap of exploring the mediating role of anxiety in relationship between uncertainty and panic buying, as mediating role of anxiety was yet to be explored. Testing of

relationship between uncertainty (independent variable), anxiety (mediator), and panic buying (dependent variable) started with development of a theoretical framework and adoption of a structured questionnaire (from previous research articles) to prove the significance of theoretical framework. A structured questionnaire based on five-point Likert Scale (representing 1 as "Strongly Disagree", 2 as "Disagree", 3 as "Neutral", 4 as "Agree" and 5 as "Strongly Agree") is adopted from Omar et al. (2021) and distributed among shoppers associated with apparel outlets of twin cities in Pakistan. 250 respondents (shoppers associated with apparel outlets of twin cities in Pakistan) are finalized through Morgan Table and questionnaires are distributed among them for data collection. Data collected from these respondents is analyzed through SPSS Software 21 with the help of statistical tests (correlation, regression, and mediation analysis). In correlation analysis, uncertainty is empirically tested with anxiety and found positive correlation between them with the magnitude of .473, accepting H1. In addition, uncertainty and anxiety are empirically tested with panic buying and found positive correlation between them with the magnitude of .492 and .453 respectively, accepting H2 and H3. Similarly, regression analysis has proved the significant relationship among uncertainty, anxiety and panic buying (based on significance level less than 0.05), accepting H1, H2, and H3. Furthermore, mediation analysis has also proved that anxiety significantly mediates the relationship among uncertainty and panic buying, accepting H4. Therefore, findings have proved that increase in uncertainty increases anxiety and panic buying, and increase in uncertainty also increased anxiety among shoppers associated with apparel outlets of twin cities in Pakistan. Finally, findings have also proved that increase in anxiety of customers further strengths the relationship among uncertainty and panic buying in Pakistan.

5.3 Research Limitations

The topic of present research is a topic relevant to customers' panic buying behavior and factors causing it. Meanwhile, present research fulfills majority of the requirements; however, there are some limitations experienced by the researcher which performing this study including resources and time. Firstly, the cross sectional nature of the data make it unattainable to illustrate implications of interconnection. Secondly, the generalizability of the results might be limited because the research is conducted on shoppers of twin cities (Rawalpindi and Islamabad), covering a very less geographical area. Another problem faced during research is that

respondents are unwilling or non-serious about filling the questionnaire, as people are reluctant to fill the questionnaires during their shopping timings. The questionnaire method is used to gather the data for the study. Meanwhile, other methods (such as interviews or group discussions) could have been used to collect data. English is an official language of Pakistan, but unfortunately most of the people do not have wide knowledge of vocabulary and they faced difficulty in filling the questionnaires. This might have caused disinclination in giving the answers. Many effective techniques are available for research which future researchers might be able to apply to conduct the research in much improved manner.

5.4 Recommendations for Future Research

The main purpose of this study is to test the framework and search for correlation among factors (such as uncertainty and anxiety) which tend to make a valid contribution towards influencing panic buying of shoppers in Pakistan. Meanwhile, there are several suggestions for researchers to improve this research in future while further working on it. The present study uses two aspects, i.e. uncertainty and anxiety, impacting panic buying. In future, researcher can use other aspects which tend to have significant influence on panic buying, as further factors (such as perceptions of severity, perceptions of scarcity, disinformation, etc.) could be used to further explore the predictors of panic buying in Pakistan. Additionally, longitudinal research might be used to analyze the link between study variables rather than cross-sectional research. Future research could examine more dimensions of buying behavior of customers, as it will help in exploring how situational variables may influence panic buying behavior of customers. In addition, a moderator (such as trust) could also be used in future to have detailed analysis of relationship among uncertainty, anxiety, and panic buying in Pakistan. Furthermore, time frame available for conducting this research study can be enhanced for permitting the researcher to conduct a detailed research. Though, an appropriate time frame is needed to be allotted for data collection and analyzing the relationship among variables of the study.

5.5 Research Implications

This research will be useful for marketers, research students, business analysts, and other stakeholders in the Pakistani economy. It would help them gain a better understanding of the importance of uncertainty and anxiety in impacting panic buying in Pakistan. This research will

be extremely useful in supporting Pakistani apparel outlets in understanding how important it is for them to reduce the uncertainty and anxiety of customers in order to handle the panic buying behavior. Marketing students will be able to determine the amount and direction of uncertainty and anxiety's impact on panic buying in Pakistani apparel outlets as a result of this research. Furthermore, the current study will assist Pakistani apparel outlets in determining how strongly panic buying is promoted by increase in customers' uncertainty and anxiety. In addition, this research will aid apparel outlets and marketers (both local and international) in better understanding how better controlling of uncertainty and anxiety issues of customers may significantly result in reducing panic buying. Additionally, this study will benefit marketing students, research students, trade analysts, market researchers, and academicians by enhancing their knowledge and understanding of the influential relationship between uncertainty, anxiety, and panic buying.

This study will lay a foundation for research students, as they will be able to use present research for increasing their knowledge regarding how anxiety plays the mediating effect in relationship among uncertainty and panic buying in apparel sector of Pakistan. In addition, this study will also be providing necessary assistance to the marketing managers and business managements in better understanding of the importance of customer behavior, as they will pay more attention towards handling the customers' thoughts and perceptions in a better way by providing them sufficient information relevant to the offered products and services. Similarly, present research will be making a valid contribution in marketing field both in theory and operations. Likewise, marketers can use the findings of this study to enhance the customer loyalty and customer base by paying attention on improving customer service management. Meanwhile, this study proves that marketer is an important individual for a business firm which can contribute to promotion of the firm by sharing right and accurate information with the customers to reduce chances of uncertainty and anxiety among their buying behavior.

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APPENDIX

Research Questionnaire

Hi. I am a student of Bahria University, Islamabad. I am collecting information for my research thesis, for which I have designed a questionnaire and sharing it with you to gather information. This questionnaire has been designed for the sole purpose of collecting data regarding 'Influence of uncertainty and anxiety on panic buying'. The data collected will be treated with very high degree confidentiality and it is meant for academic purpose only. You are kindly asked to fill out this questionnaire by circling appropriate answers.

Section A: General Information

Gender:

- Male
- Female

Age:

- Less than 30 years
- 30 – 45 years
- More than 45 years

Education:

- Undergraduate
- Graduate
- Postgraduate

Annual Income:

- Less than 500,000
- 500,000 – 1,000,000
- More than 1,000,000

How often do you visit outlets for shopping?

- Rarely
- Occasionally
- Frequently

Section B: Uncertainty

Keeping in view your experience, answer the following questions:

Uncertainty	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The certainty that COVID 19 pandemic will not cause physical risk to you	1	2	3	4	5
The certainty that COVID 19 pandemic will not cause emotional risk to you	1	2	3	4	5
The certainty that COVID 19 pandemic will not cause financial risk to you	1	2	3	4	5
The certainty that COVID 19 pandemic will not cause social risk to you	1	2	3	4	5
The certainty that COVID 19 pandemic will not harm you	1	2	3	4	5

	1	2	3	4	5
The certainty that COVID 19 pandemic will not affect your family	1	2	3	4	5

Section C: Anxiety

Keeping in view your experience, answer the following questions:

Anxiety	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
When shopping, I feel that difficulties are piling up so that I cannot overcome them	1	2	3	4	5
When shopping, I worry too much over something that really doesn't matter	1	2	3	4	5
When shopping, I take disappointments so keenly that I can't put them out of my mind	1	2	3	4	5
When shopping, I get in a state of tension or turmoil as I think over my recent concerns and interest	1	2	3	4	5

Section D: Panic Buying

Keeping in view your experience, answer the following questions:

Panic Buying	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
When shopping, I have bought more products than what I intended to buy	1	2	3	4	5
When shopping, I stock up groceries and/or other necessities	1	2	3	4	5
When shopping, I get involved in unusual purchase of groceries	1	2	3	4	5

Thank You!

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1 Nor Asiah Omar, Muhamad Azrin Nazri, Mohd Helmi Ali, Syed Shah Alam. "The panic buying behavior of consumers during the COVID-19 pandemic: Examining the influences of uncertainty, perceptions of severity, perceptions of scarcity, and anxiety", Journal of Retailing and Consumer Services, 2021
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