EXAMINING THE SUSTAINED ADOPTION OF OMNICHANNEL SHOPPING BEYOND THE COVID-19 PANDEMIC

Henry Akwa-Mensah

A Dissertation

Submitted to Franklin University in partial fulfillment of
the requirements for the degree of

DOCTOR OF BUSINESS ADMINISTRATION

August

Committee:

Sherry Abernathy, Committee Chair

Charles Fenner, Committee Member

Tim Reymann, Committee Member

Franklin University

This is to certify that the dissertation prepared by

Henry Akwa-Mensah

"Examining the Sustained Adoption of Omnichannel Shopping Beyond the COVID-19 Pandemic"

Has been approved by the committee as satisfactory completion of the dissertation requirements for the degree of

Doctor of Business Administration

Sherry Abernathy (Oct 28, 2023 14:38 EDT) — 10/28/2023

Dr. Sherry Abernathy, Committee Chair & Adjunct Faculty
Franklin University

Tim Reymann (Oct 28, 2023 15:19 EDT) — 10/28/2023

Dr. Tim Reymann, Committee Member & Faculty Emeritus
Franklin University

CHARLES R FENNER JR (Oct 28, 2023 18:23 EDT) — 10/28/2023

Dr. Charles Fenner, Committee Member & Doctoral Adjunct,
Franklin University

Robin Hinkle (Oct 28, 2023 19:26 EDT) — 10/28/2023

Dr. Robin Hinkle, DBA Program Chair
Franklin University

Dr. Wendell Seaborne, Dean, Doctoral Studies
Franklin University

10/28/2023

FRANKLIN UNIVERSITY
Doctoral Studies

(THIS PAGE WAS INTENTIONALLY LEFT BLANK)

Abstract

The COVID-19 pandemic spurred a significant retail shift, with consumers turning to online shopping due to safety concerns and lockdowns. Retailers quickly adopted omnichannel strategies, merging online and offline channels to stay relevant and enhance the shopping experience. This research, grounded in innovation diffusion theory, examined the pandemic's influence on customer behavioral intentions regarding omnichannel capabilities. Using a quantitative research approach with a survey in Northwest Arkansas, the study explored the relationship between innovation diffusion attributes and customer omnichannel Buy-Online-Pickup-at-the-Store (BOPS) behavioral intention. A ten-point Likert scale survey was adapted from Kapoor to gather data from 190 respondents online. The respondent's Intention to Use BOPS increased from 36.8% pre-pandemic to 84% post-pandemic. Data was analyzed using Pearson correlation for each characteristic and regression for the combined attribute and customer intention to use BOPS. Notably, relative advantage, compatibility, and observability attributes significantly impacted the model, whereas trialability and complexity lacked significance within the model. The findings suggested that customers prioritize buy-Online-Pickup-at-the-Store's relative advantage, compatibility, and observability when making adoption decisions. While complexity and trialability are essential, their significance diminishes when considered with other attributes. This study contributes valuable insights into consumer behavior during crises and the evolving retail landscape post-crisis. These findings can guide strategies for optimizing omnichannel capabilities and enhancing customer adoption.

Keywords: *Omnichannel, eCommerce, E-tail, Retail, Digital Channel, Digitization, Online, retail innovation, Diffusion of Innovation, Buy-online-pickup-in-store. COVID-19 pandemic, Intent to use. Buy-online-ship-to-store (BOSS), Pick-up today (PUT).*

Dedication.

I dedicate this to those who have shaped my journey and inspired me to reach for the stars:

To my mother, Joyce,

for your life lessons, hard work, values, unconditional love,

and sacrifices that paved my path to my dreams.

To my Wife, Rene,

for your unwavering love, friendship, encouragement,

and support in my aspirations.

To my Children, Nshira, Adom, and Nyameye,

my constant inspiration and pride.

May you strive for the impossible and be your best selves.

And to all who've inspired my journey,

thank you.

Acknowledgments

I extend my sincere gratitude to my dissertation committee for their invaluable support and guidance during this journey. Dr. Sherry Abernathy, Committee Chair, your mentorship was pivotal to my dissertation's success and academic growth. Dr. Charles Fenner, your timely, insightful feedback and exceptional guidance enriched my work. Dr. Tim Reymann, your support and feedback were greatly appreciated. It's important to recognize that the committee's insights and suggestions profoundly influenced this work and my scholarly development, for which I'm truly grateful.

David Cascio and Bashyam Ramasami, your professional mentorship and encouragement have been instrumental in my growth. Thanks to Elizabeth Kheng-Chindavong, my accountability partner, Shauna and Chris Vitali, Dr. Christopher Bradley, Dr. Danisha Thomas, Jeff Barland, Eddie Osei Mensah, Marta and Matthew Robinson, Laura, and Jesus Andrade, and all those who have supported me along this journey.

I owe a profound debt of gratitude to my family - my rock. To my wife, Rene, and my children, Nshira, Adom, and Nyameye, your unwavering support has been my strength. Ankomah family, Joy Akwa-Mensah, Petter Akwa-Mensah, Evelyn Kakraba, Frederick, and Michael Annor, your roles in my journey are deeply appreciated.

To each of you mentioned here and to those not named but equally cherished, I extend my deepest appreciation for your unwavering support and belief in me. This dissertation journey would not have been the same without you, and for that, I am profoundly grateful.

Table of Contents

Page

List of Figures

List of Tables

Chapter 1: Introduction

Throughout history, there have been several pandemics, such as the Spanish flu, bubonic plague, and more recent pandemics, which have caused a systemic shock with a direct impact on businesses and economies, highlighting the detrimental effects of such disruptions (Boyles et al., 2022; Comberg & Velamuri, 2017; Larson & Shin, 2018). Systemic shocks have historically influenced consumption patterns, with consumer behavior responding to socioeconomic disruption and unease produced by the shocks (Boyles et al., 2022). These effects have been observed following various events, such as earthquakes, terrorism incidents, tsunamis, and limited pandemics like SARS.

The significant impact of the global and systemic shocks on omnichannel purchasing behavior has received limited research attention despite the extensive study of event-induced stress. Nevertheless, research indicates that anxiety is a common psychological response to systemic shocks, resulting in significant and radical changes in purchasing behavior (Boyles et al., 2022; Larson & Shin, 2018). This gap underscores the need for additional research into the effects of these disruptions on consumer behavior, especially in the context of Omnichannel shopping adoption.

Background

The COVID-19 pandemic caused unprecedented havoc upon the global populace, with an estimated 6.5 million individuals succumbing to infection and displacing millions (Das et al., 2022). The repercussions of losing human lives, occupations, and livelihoods have been clearly described. However, it is imperative to underscore that protracted disruptions to routine social and economic activities may engender enduring, far-reaching ramifications. According to Boyles et al. (2022), the systemic shock of coronavirus (COVID-19) and its influence on the global

economy has been unprecedented, with shopping behavior altering substantially during the pandemic's many phases. Empirical evidence suggests that COVID-19 has led to unusual market conditions and substantial shifts in consumer behavior, necessitating a comprehensive understanding for assessing alterations in shopper behavior and implications for future systemic shocks in retail planning (Boyles et al. 2022).

Further, the COVID-19 pandemic caused severe health and economic concerns among consumers, and individuals reacted in various ways, with varying behaviors, actions, and buying patterns (Dewalska-Opitek et al., 2022). One of the perhaps most significant and long-lasting effects of the pandemic has been a change in customers' propensity to purchase over the Internet, which is undoubtedly a critical development in customers' behavior (Dewalska-Opitek et al., 2022; Hwang et al., 2020). According to the Accenture Report (2020), transitioning traditional customers into online customers is one of the most significant trends that is anticipated to continue into the foreseeable future.

During COVID-19 lockdowns, brick-and-mortar (BM) establishments (and other companies like restaurants) began to provide electronic purchases, a convenient click-and-collect service, and delivery service (Dewalska-Opitek et al., 2022; Hwang et al., 2020; Taylor, 2022). However, before the lockdown, not many customers had utilized omnichannel shopping to make purchases of food and groceries, but after the shutdown, the number of people shopping for food and groceries using omnichannel shopping such as buy-online-pickup-at-the-store (BOPS) increased dramatically by 30% (Akshaya & Phadtare, 2022). Therefore, the effect of the pandemic on omnichannel shopping is likely to be significant while the pandemic is ongoing, but the effect may lessen as the pandemic winds down (Akshaya & Phadtare, 2022).

Nevertheless, reverting to one's previous shopping behavior is unlikely, even if the environment is restored to normalcy (Akshaya & Phadtare, 2022). The phrase "new normal" accurately describes what the future has in store (Akshaya & Phadtare). However, contrary to Akshaya and Phadtare (2022), Baroroh and Agarwal (2022) argue that it is unrealistic that organizations assume the pandemic level online to become the "new normal." Townsend (2022) suggested that the market has returned to the pre-pandemic state. The return to pre-pandemic buying patterns reveals that several retail giants misread their markets by naively believing that COVID-19 lockdown spending habits would persist. Thus, it is unclear if customer behavior toward omnichannel shopping will revert to the pre-pandemic state or if the pandemic-driven change in buying practice is the new normal. Therefore, understanding the shifts in consumer behavior and adapting to their worldviews for businesses to succeed is essential because once consumer behaviors are altered, they may not easily be reversed (Akshaya & Phadtare, 2022).

Retailers were forced to rapidly adapt to the new environment as consumers transferred their purchasing habits to online channels due to safety concerns and lockdowns (Verhoef et al., 2021). As a result, numerous retailers have adopted omnichannel shopping strategies, which integrate online and offline channels to create a seamless consumer purchasing experience (Verhoef et al., 2021). One such strategy that has gained traction is Buy-Online-Pickup-at-the-Store (BOPS), which enables consumers to shop online and pick up their items at the store (Kim et al., 2020). BOPS has been shown to provide various advantages for retailers and customers, including enhanced convenience, lower shipping costs, and shorter delivery times (Gao & Su, 2017). However, BOPS adoption has yet to be universal, and retailers and consumers continue to face obstacles to its widespread adoption.

As a result, a lack of understanding of consumer behavioral intentions toward online retail presents challenges for managers to develop operations to align with customer needs and market trends. For example, implementing a BOPS channel may incur large expenditures, including return charges and sales effort costs, according to the findings and data (Yan & Bian, 2020; Gao & Su, 2017). BOPS reduces online shipping costs on the one hand by shifting the responsibility of last-mile delivery to consumers. BOPS comes with new fulfillment duties for the retailer (Gao & Su, 2017). For instance, businesses must teach their staff to do pick-and-pack activities promptly (Forrester Research, 2014), and to meet rising demand, stores must recruit additional workers to handle online orders (Gao & Su, 2017; Lutz, 2012). Thus, it is vital to understand the essential factors influencing customer omnichannel shopping adoption to develop effective operations and marketing strategies to drive consumer usage (Salem & Nor, 2020) and capitalize on the changing retail landscape beyond the pandemic.

Omnichannel

Omnichannel operations integrate physical and online channels for a more seamless buying experience (Chen et al., 2018). Retail omnichannel entails expanding retail capability offers with new technology while maintaining the same service quality and product across several channels so consumers can discover, evaluate, decide, and buy goods while engaging with the retail brand (Pantano & Viassone, 2014; Jayasingh et al., 2022). Omnichannel retailing is also the collection of activities associated with an integrated commercial strategy, which provides customers with a unified experience across all channels or touchpoints. In an omnichannel environment, customers can easily navigate across channels such as online, in-person, or on mobile devices (Kim et al., 2020; Melero et al., 2016). Thus, omnichannel commerce creates a seamless customer experience across various purchasing channels, including

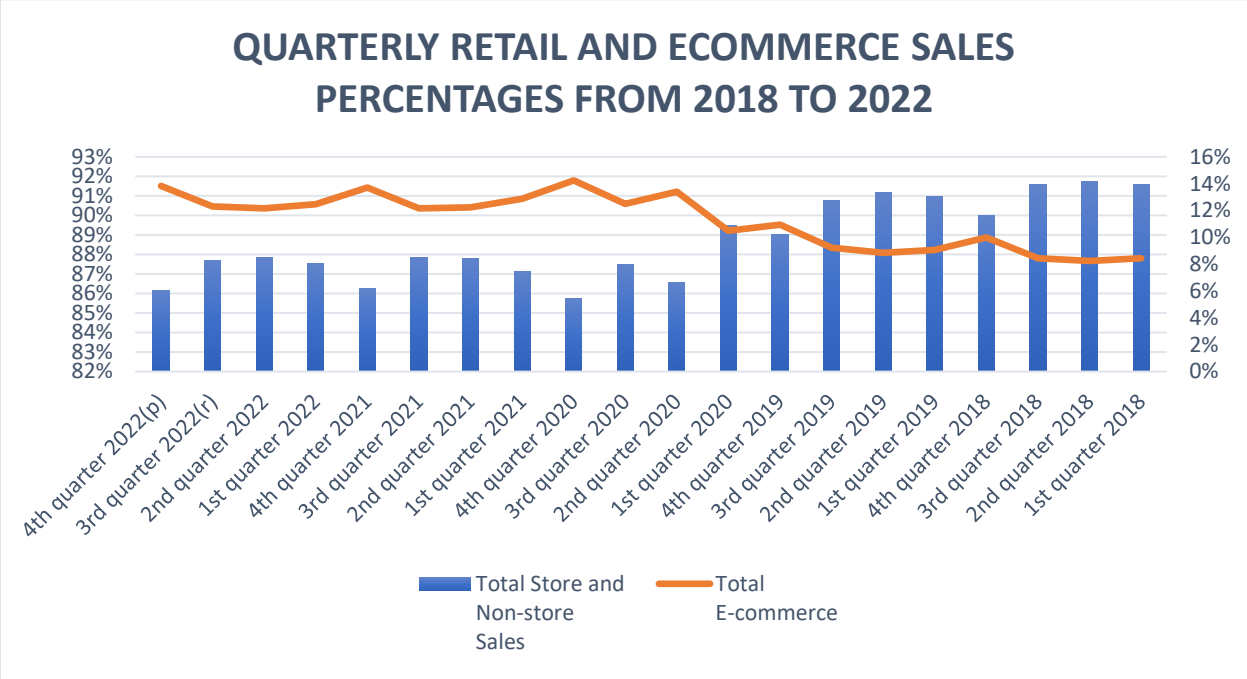
mobile Internet devices, desktops, physical stores, television, and catalogs (Pentina & Hasty, 2009; Simone & Sabbadin, 2017). Additionally, omnichannel shopping allows consumer contact initiated on one interaction channel to be maintained on another, with all contextual information kept across channels (Piotrowicz & Cuthbertson, 2014).

In recent years, omnichannel shopping has focused on customers seamlessly shopping across physical and digital channels (Huang, 2021). According to Chen and Mersereau (2015), a vital issue of contemporary in-store retailing, as highlighted by the drive for omnichannel retailing, is understanding how to compete with, complement, and gain knowledge from the digital channel (Lazaris et al., 2014). Thus, an efficient electronic retail operation within an omnichannel management strategy is connected to the retailer's ability to better address each consumer's needs along the customer purchase journey (Belvedere et al., 2021; Lemon & Verhoef, 2016). Consequently, Lazaris et al. (2014) suggested that retailers restructure their business operations to put the consumer first and create omnichannel shopping experiences. Customers may benefit from omnichannel retailers' ability to provide flexible alternatives such as ship-to-store, curbside pickup, and ship-to-customer (Hwang et al., 2020).

The trend in e-commerce sales versus total retail sales in the United States, spanning from 2018 to 2022, reveals that e-commerce sales increased from 8% to 14%, as depicted in Figure 1. Additionally, Townsend (2022) noted that E-commerce and Omnichannel sales averaged during the height of the pandemic in the second quarter of 2020, increased from 11.9% to 16.4%, an astounding surge that compressed many years of growth into three months. However, household essentials such as food and drugs were often acquired in person before the pandemic (Walton, 2020; Miranda, 2022). Morgan (2020) reported that by the end of 2019, 81% of consumers had not engaged in online food purchases, yet nearly 79% of shoppers had utilized

online grocery services during the pandemic. Thus, the coronavirus pandemic altered consumer behavior, as seen by increased Internet and omnichannel sales of necessities such as food, personal hygiene items, and cleaning materials (Miranda, 2022).

Figure 1 *Quarterly Retail and E-commerce Sales*



The COVID-19 pandemic compelled retailers to close their physical channels and quickly turn to contactless pickup and delivery services, rethinking their online strategies to maintain operations despite the social and economic crisis (Wang et al., 2020). Concurrently and as a requisite response, numerous consumers were compelled to modify their behavior and embrace online channels and touchpoints (Salvietti, 2021). Some encountered new services for the first time, resulting in behaviors that may be sustained beyond the pandemic (Arora et al., 2020). According to a poll conducted in April 2020, more than a quarter of US customers avoided public locations, and 58% intended to do so if the pandemic increased (Zhuang et al., 2020). Moreover, 30% of individuals who adjusted their daily routines avoided retailers (Unglesbee et al., 2020, 2020); more precisely, 26% visited brick-and-mortar stores less often,

while 70% visited Internet companies more frequently than before the recession (Zhuang et al., 2020).

Consequently, retailers may gain from global conditions that induce consumers to utilize online channels during the COVID-19 pandemic (Avsar, 2021). Before the pandemic, firms used Omnichannel to differentiate themselves from the competition by providing customers with various services and experiences (Salvietti, 2022). For example, Walmart implemented BOPS to leverage its over four thousand stores in the United States to compete with Amazon, providing same-day delivery, site-to-store, and grocery pickup (Jindal et al., 2020). However, the COVID-19 pandemic amplified its significance and potential (Salvietti, 2022; Verhoef, 2021). For example, Feng et al. (2022) noted that during the pandemic, the percentage of the top one thousand retail chains that offer curbside pickup increased from 6.6% to 8.2%. During COVID-19, BOPS orders placed by Kibo clients increased by 563% (Jain et al., 2022). One possible explanation for the driving force behind the BOPS model is the incremental revenue generated from the additional purchases made by BOPS consumers; however, this explanation does not fully encompass the surge in BOPS adoption by retailers during the pandemic.

However, Cocco and De-Juan-Vigaray (2022) suggested that customer service and experience expectations have shifted due to consumer behavior during the COVID-19 pandemic. Since the beginning of the pandemic, consumers have continued to use alternative purchasing methods due to the risk of infection. Customers' reluctance to shop in brick-and-mortar stores results from social isolation and the identification of at-risk groups. Numerous consumers have adopted online purchasing, engaged in frantic buying, and tolerated longer wait times and higher prices (Pantano et al.,2020; Cocco & De-Juan-Vigaray. 2022).). These new behaviors are likely to reduce store loyalty and encourage the testing of new retailers with varying product

assortments. As the pandemic subsides, the demand for convenience and a seamless experience is anticipated to continue to rise. Consequently, customers may increase the usage of Omnichannel services such as BOPS.

Statement of the Problem

The problem studied in this research is that retail managers may not understand how the COVID-19 pandemic has affected customer behavior toward a retailer's omnichannel shopping offerings (Sheth, 2020; Taylor, 2022) and how this change impacts long- and short-term operations and business strategies. In recent years, the convergence of physical and digital retailing has become a fundamental industry transformation (Galipoglu et al., 2018). Omnichannel commerce, which seamlessly incorporates multiple purchase channels, has emerged as a critical strategy for providing a superior purchasing experience (Juaneda-Ayensa et al., 2016). BOPS is a notable example of omnichannel fulfillment that combines the convenience of online purchasing with the promptness of in-store pickup (Akturk et al., 2018). However, the COVID-19 pandemic has caused a paradigm shift in consumer behavior and expectations, which may impact the adoption and utilization of BOPS in the post-pandemic era.

According to Townsend (2022), since the middle of the 2010s, the proportion of Internet sales in the United States has been increasing by around one percentage point yearly. However, during the height of the pandemic in the second quarter of 2020, online sales climbed to 16.4% from 11.9%, an unparalleled spike that compressed many years of growth into three months. Since the conclusion of the pandemic in the United States, the e-commerce surge has diminished (Townsend, 2022). The US Census Bureau statistics show that online sales growth has lagged behind the broader retail sector over the previous five quarters. The evidence from the pandemic is an excellent illustration of how disruption may cause an emotional reaction in customers that

could interfere with their purchase intent and, as a result, affect their decisions and choices (Galoni et al., 2020). Consequently, Riaz et al. (2022) suggested that customers tend to be volatile and need consistent experiences uniquely tailored to meet their needs.

Thus, the specific problem that this researcher intends to investigate is that retail managers have an insufficient understanding of the influence of the COVID-19 pandemic on customers' behavior and Intention to Use BOPS omnichannel shopping post the COVID-19 pandemic. This omnichannel customer behavior knowledge and understanding gap impacts these retail managers' ability to develop effective strategies, capabilities, and marketing strategies to attract customers and improve performance (Hwang et al., 2020; Keel, 2018). As a result, these managers develop omnichannel strategies and capabilities not aligned with customer behavior, resulting in low performance and store closing, as evident in the demise of some retailers during the pandemic (Keel, 2019).

Additionally, Fertik (2019) noted that retail business failures are due to customer behavior changes, and understanding customer factors is critical to developing strategies to attract and retain customers. Thus, as noted by Hwang et al. (2020), the success of a retailer's strategy is contingent on several characteristics of underlying consumer behaviors. Consequently, events from the COVID-19 outbreak added a strong call to action to the need for a greater understanding of customer behavior toward business retail innovation (Spradley, 2022). Therefore, this study focuses on how the COVID-19 pandemic has influenced customers' behavior toward omnichannel services such as BOPS developed by retail organizations during the COVID-19 crisis and how the omnichannel strategy affects customer adoption of omnichannel (BOPS) post-pandemic.

Purpose of Study

This quantitative study investigated BOPS Omnichannel shopping's continuous use by customers post the COVID-19 pandemic. Thus, this researcher aimed to understand the influence of COVID-19 on customer intent to use a retailer's omnichannel BOPS capabilities post the COVID-19 pandemic using attributes of Diffusion of Innovations (i.e., relative advantage, compatibility, and trialability) as a basis for evaluating BOPS behavioral use intention of customers in Northwest Arkansas. This researcher investigated the changes in consumer behavior beginning in March 2020 because of the pandemic lockdown inducing customers to use BOPS for health and safety. The sampled customers' purchase behaviors were studied to see how the pandemic influenced these customers' behavior toward the desire to utilize BOPS omnichannel shopping. The study collected data from participants, using questionnaires, to identify the influence of the pandemic on customer desires to utilize omnichannel post-pandemic.

The dissertation's findings intend to aid retail managers in understanding and anticipating the future consequences of a disruption in customers' behavior toward omnichannel shopping. This researcher attempted to explain the retail industry tendencies that have evolved throughout the pandemic. The study serves its goal by explaining how developments during the COVID-19 pandemic have impacted omnichannel sales and retail strategy. In addition, the research may be utilized to advise firms impacted by the pandemic and future descriptions on how to enhance their operational strategies and maintain their competitiveness. By researching the issue, it would be possible to comprehend the shifts in retail organizations, the risks that could arise, and the advantages a firm could get from altered customer behavior. Therefore, the research is significant because it reveals the effects of disruption on consumer behavior and the general tendencies in

customer acceptance of innovation, such as BOPS Omnichannel shopping, enabling retail managers to establish strategies to improve operational performance.

Research Question/Hypotheses

COVID-19, a novel coronavirus infection discovered in late 2019, has touched every aspect of our lives (Avşar, 2021; Hwang et al., 2020). Due to the contagious nature of the pandemic, several nations took exceptional precautions to prevent its spread, including closing schools and non-essential businesses, social distance guidelines, and isolation orders (Hwang et al., 2020). Kraemer et al. (2020) noted that while there is evidence that such policies are helpful, they burden the retail industry enormously. Since the pandemic outbreak, physical shops have been so severely harmed that many businesses have filed for bankruptcy (Hwang et al., 2020). Concurrently, online shops such as Amazon and Wayfair are experiencing sales increases as customers transfer their purchasing habits to the Internet (Cohan, 2020; Mattioli & Herrera, 2020). Thus, the pandemic may have radically altered customer buying habits, causing difficulties for offline enterprises (Zhuang et al., 2020).

The many social limitations that followed the onset of the pandemic, particularly the lockdown times, significantly impacted the everyday operations of businesses and customers (Brandtner et al., 2021; Farrell et al., 2020). Furthermore, more people are purchasing online than ever (Torry, 2020), indicating that an omnichannel business (one with both store and online channels) may be better equipped to react to the pandemic's effects. However, the problem is that retail managers do not understand how the COVID-19 pandemic has affected customer behavior toward a retailer's omnichannel service and how this change impacts long- and short-term operations and business strategies. Accordingly, the key to persuading consumers to use

omnichannel shopping is understanding the fundamental elements influencing consumer decisions to choose omnichannel services (Avasar, 2021; Salem & Nor, 2020).

Further, Thompson (2017) and Taylor (2022) noted that understanding consumer needs and supplying them with what they need at an affordable price without sacrificing quality is essential for the success of any company. Thus, for organizational executives to make strategic decisions and develop their businesses in reaction to the COVID-19 pandemic, the research employed the theory of innovation diffusion as its theoretical underpinning to analyze the factors that may impact Omnichannel usage post the pandemic (Al-Jabri & Sohail, 2012). The research used innovation diffusion theory as a foundation to examine how consumer omnichannel experience during the COVID-19 pandemic influences customer attitude towards omnichannel. The study also examined how the COVID-19 pandemic affected customer behavior toward omnichannel. This researcher investigated the influence of the COVID-19 pandemic on customer behavior towards omnichannel by attempting to answer the following questions and hypotheses:

RQ1: What is the relationship between the relative advantage of omnichannel shopping realized during the COVID-19 pandemic and customers' intention to use BOPS?

$H1_0$: A statistically significant relationship does not exist between the relative advantage of omnichannel shopping during the COVID-19 pandemic and customer intention to use BOPS.

$H1_A$: A statistically significant relationship exists between the relative advantage of using omnichannel shopping during the COVID-19 pandemic and customer intention to use BOPS.

RQ2: What is the relationship between the complexity of omnichannel shopping use during the COVID-19 pandemic and customers' behavioral intention to use BOPS?

$H2_0$: A statistically significant relationship does not exist between the complexity experienced from the use of omnichannel shopping during the COVID-19 pandemic and customers' behavioral intention to use BOPS.

$H2_A$: A statistically significant relationship exists between the complexity experienced from the use of omnichannel shopping during the COVID-19 pandemic and customer behavioral intention to use BOPS.

RQ_3: What is the relationship between customer compatibility from omnichannel shopping use during the COVID-19 pandemic and customers' behavioral intention to use BOPS?

$H3_0$: A statistically significant relationship does not exist between the compatibility of omnichannel shopping during the COVID-19 pandemic and customer behavioral intention to use BOPS.

$H3_A$: A statistically significant relationship exists between the compatibility of omnichannel shopping during the COVID-19 pandemic and customer behavioral intention to use BOPS.

RQ4: What is the relationship between trialability from omnichannel shopping use during the COVID-19 pandemic and customer behavioral intention to use BOPS?

$H4_0$: A statistically significant relationship does not exist between the trialability of omnichannel shopping during the COVID-19 pandemic and customer behavioral intention to use BOPS.

$H4_A$: A statistically significant relationship exists between the trialability of omnichannel shopping during the COVID-19 pandemic and customer behavioral intention to use BOPS.

RQ_5: What is the relationship between customer observability of omnichannel shopping use during the COVID-19 pandemic and customers' behavioral intention to use BOPS?

$H5_0$: A statistically significant relationship does not exist between the observability of omnichannel shopping during the COVID-19 pandemic and behavioral intention to use BOPS.

$H5_A$: A statistically significant relationship exists between the observability of omnichannel shopping during the COVID-19 pandemic and customer behavioral intention to use BOPS.

RQ6: What is the relationship between the combined Diffusion of Innovation attributes influenced by the COVID-19 pandemic and customer behavioral intention to use BOPS?

$H6_0$: A statistically significant relationship does not exist between the combined Diffusion of Innovation attributes influenced by the COVID-19 pandemic and customer behavioral intention to use BOPS.

$H6_A$: A statistically significant relationship exists between the combined Diffusion of Innovation attributes influenced by the COVID-19 pandemic and customer behavioral intention to use BOPS.

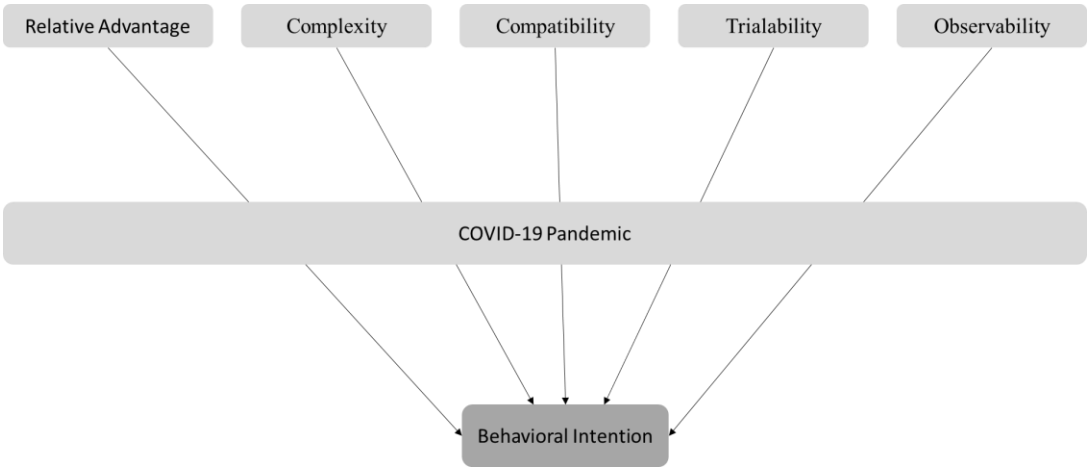
Conceptual Framework

The Diffusion of Innovation theory proposed by Rogers (1962) served as the theoretical foundation for this dissertation on the influence of the COVID-19 pandemic on consumer intentions to use BOPS. The Diffusion of Innovation (DOI) theory is commonly used to comprehend the adoption of new technologies or innovations, and it provides a comprehensive framework for investigating the factors that influence the adoption process (Taylor, 2022). In this study, the five innovation diffusion attributes proposed by Rogers (Relative Advantage,

Compatibility, Complexity, Trialability, and Observability) served as the primary variables for examining the effect of the pandemic on BOPS adoption (Olatokun & Igbinedion, 2009). Relative Advantage indicates the extent to which BOPS is perceived as superior to conventional purchasing methods in terms of convenience, time savings, and flexibility. Compatibility evaluates how well BOPS aligns with consumers' purchasing routines and preferences. Complexity evaluates the perceived difficulty or simplicity of purchasing with BOPS. Trialability investigates the opportunity for consumers to test out BOPS before entirely adopting it. Lastly, Observability refers to the degree to which potential users can observe the benefits and outcomes of using BOPS. This theoretical framework guided the empirical investigation of the influence of the COVID-19 pandemic on BOPS adoption, considering how these diffusion attributes are influenced by altering consumer behavior and preferences during and after the pandemic (Rogers, 1962).

External factors, such as the COVID-19 pandemic, significantly impact the adoption of omnichannel strategies. As consumers seek contactless and convenient purchasing experiences, pandemic-induced disruptions and security concerns may accelerate the adoption of BOPS (Verhoef et al., 2022). Figure 2 depicts how the compelled use of omnichannel capability may influence the Innovation Diffusion attributes, resulting in a pandemic influencing customer use behavioral intentions via the attributes. Thus, the COVID-19 pandemic may influence the intention to use a retailer's omnichannel by influencing the characteristics of innovation diffusion, which may directly affect whether the capability is utilized (Olatokun & Ibinedion, 2009).

Figure 2 *Theoretical Framework for Pandemic Influence on Omnichannel Adoption*



Significance of the Study

Several researchers (Aljabri & Sohail, 2012; Herhausen et al., 2015; Kim et al., 2017; Shi et al., 2020) base their work on the DOI theory, which is one central theory used to investigate omnichannel cross-channel themes. According to the Diffusion of Innovation theory DOI, the qualities of the technology and the user determine the adoption choices of new technologies (Gerea, 2021). From this perspective, a primary omnichannel management concern is finding the triggers and technological factors that stimulate omnichannel customer adoption (Cao & Li, 2018). Despite the growing focus, theoretical and empirical research on understanding omnichannel adoption intents remains limited and provides little insights to assist top retail executives in choosing the best strategic capabilities for integrating and marketing their omnichannel capability offerings (Cao & Li, 2018; Herhausen et al., 2015).

Therefore, this study contributes to the existing body of research on innovation diffusion, consumer behavior, and omnichannel retailing. As an early study to examine the influence of innovation diffusion attributes on BOPS adoption post the global pandemic, it addresses a crucial void in the literature. The results add to our comprehension of how external factors, such as the COVID-19 pandemic, influence innovation adoption and provide valuable theoretical insights

into the factors that drive customer intention to use omnichannel. By incorporating the Diffusion of Innovation theory, this study contributes to a more comprehensive understanding of how new retail innovations such as BOPS are adopted by consumers, particularly in times of crisis and disruption. This study can help scholars in retail management, consumer psychology, and innovation diffusion build on existing theories and develop new frameworks to investigate how external disruptions, such as pandemics, influence consumer behavior and innovation adoption in the retail industry.

Additionally, the research has important implications for managers, as studying the pandemic shopping behavior on intent to use omnichannel would enable firms to adopt a variety of omnichannel operation management strategies aimed at boosting customers adoption and satisfaction by providing an integrated shopping strategy aspired to customers adoption behavior (Juaneda-Ayensa, 2016; Lazaris et al., 2015; Verhoef et al., 2015). The findings have practical implications for managers regarding the most effective management and marketing tactics for enhancing a significant business strategy, namely, developing comprehensive omnichannel customer capabilities (Juaneda-Ayensa, 2016; Lemon & Verhoef, 2016). Thus, the practical significance of this dissertation resides in its potential to influence future BOPS adoption strategies and guide retailers in the post-COVID era in developing a customer-centric, adaptable, and successful omnichannel retail strategy.

Definitions of Terms

Adoption of Technology

The process through which a society accepts, integrates, and uses newly developed technologies (Ali & Soar, 2018).

Brick and Mortar Retail

Retailers conduct all their consumer transactions in physical (bricks-and-mortar) locations (Williams, 2014).

Channel Integration

Retail channel integration is the use of technology to integrate the development of information and customer experiences across functional channel resources and operations within a service delivery system (Oh et al., 2012)

Digitization

To "convert to a digital format that a computer can interpret" (McKean, 2005, p. 473). Digitization entails transforming a physical asset, such as a storefront, into its digital equivalent, such as an e-commerce website (Williams, 2012).

E-Commerce

Alternatively, electronic commerce entails online interactions and exchanging products and services through the Internet (Jain et al., 2016).

Innovation

A paradigm based on the premise that companies can and should progress their technology by using both internal and external ideas and pathways to market to gain competitive advantage (Chesbrough, 2003; Chen et al., 2018).

Multichannel

Retailers consolidate operations from discrete multichannel architecture – where direct-to-customer shipments and retail supplies are primarily conducted in tandem and controlled independently – into a unified multichannel framework (Hubner et al., 2016).

Omnichannel

In omnichannel, retailers connect online and physical BM channels to provide offline and online information, enabling customers to buy goods via conventional or digital means (Kumar, 2019; Shao, 2021). Omnichannel strategies include BOPS capabilities, offline-to-online targeting, pop-up shops, and physical showrooms (Gauri, 2021). In this study, Omnichannel refers to BOPS, as BOPS enables clients to place an order online and pick it up from a location close to their homes, giving them the best of both the online and offline worlds (Wu. & Chen, 2022). Brown and Rednab (2019) indicated that the choices for pickup include pickup at current stores ("in-store"), drive-thru outlets next to shops ("near-store" type, also known as curbside pickup), and free-standing facilities with dedicated order holding ("stand-alone" type).

Relative Advantage

Relative advantage is the extent to which an innovation is deemed superior to its predecessor (Moore & Benbasat, 1991; Rogers, 1995). The degree of relative advantage may be quantified in economics, but social-prestige traits, convenience, and satisfaction are often also significant factors (Rogers, 1995).

Compatibility

Compatibility is the degree to which potential adopters view an innovation to be consistent with their existing values, past experiences, and requirements (Chen et al., 2004; Rogers, 1995). An invention incompatible with a society's prevalent values and norms will not be adopted as rapidly as one compatible (Rogers, 1995).

Complexity

Complexity is the degree to which an invention is perceived to be challenging to comprehend and use (Olatokun & Igbinedion, 2009; Rogers, 1995). Some innovations are easily

comprehended by most of a social system's members, whereas others are more complex and will be accepted more slowly (Rogers, 1995).

Trialability

Trialability is the extent to which an idea is amenable to limited testing (Rogers, 1983). In general, innovations that are not divisible will be implemented more slowly than those that can be tested on an installment basis (Rogers, 1995). Potential adopters permitted to try an innovation will feel more comfortable and more inclined to accept it (Al-Jabri & Sohail, 2012; Agarwal & Prasad, 1998; Rogers, 2003).

Observability

Observability is the extent to which the outcomes of an invention may be seen by others (Rogers, 1983). Individuals are more inclined to accept a new technology if its outcomes are readily apparent (Rogers, 1995). Moore and Benbasat (1991) streamlined the original concept by characterizing observability as two distinct concepts: visibility and outcome demonstrability (Al-Jabri & Sohail, 2012).

Behavioral Intent

Intent denoted a person's deliberate choice to behave in a particular manner in the future (Venkatesh et al., 2003). Venkatesh et al. (2003) found behavioral intention as the most critical predictor of technology usage in their research. The research used behavioral intention as the dependent variable and examined customers' probability of using omnichannel capability from a store.

Buy-online-pick-up-at-the-store

Buy Online, Pick Up in Store (BOPS) is a click-and-collect functionality that allows customers to purchase products online and retrieve them from a physical store, bridging the gap between online and brick-and-mortar shopping (Beck & Rygl, 2015).

Glossary of terms

BOPS

Buy online pickup at the store.

DOI

Diffusion of Innovation

CP

Complexity

CT

Compatibility

OO

Observability

RA

Relative advantage

TT

Trialability

TTF

Task technology fit.

UTAUT

Unified theory of acceptance and use of technology

Assumptions, Limitations, and Delimitations

A researcher must identify and address the inherent research process's assumptions, limitations, and delimitations. Assumptions are the fundamental beliefs or premises upon which the study is founded, whereas limitations are the factors that constrain or restrict the research process (Duckett, 2021). Delimitations define the scope of the research and provide context and focus for the study (Creswell, 2014). Recognizing assumptions, limitations, and delimitations is crucial for the robustness and transparency of research, as it promotes transparency, acknowledges potential biases, and defines the scope of the study.

Assumptions

Assumptions represent the researcher's held beliefs without empirical substantiation (Duckett, 2021). According to Sekaran and Bougie (2016), research assumptions are defined as "statements about the characteristics of the variables, or about the relationships among the variables, which are taken for granted in a particular study" (p. 114). Assumptions are typically made to simplify complex phenomena, establish boundaries, or set the context for research. The first assumption was that the target population comprises typical retail customers using an omnichannel service due to the COVID-19 pandemic. The second assumption was that the core in-store (brick-and-mortar) retail consumers were between 18 and 65+ years old. Therefore, the survey targeted customers ranging in age from 18 to 65+ from a variety of backgrounds. This demographic may respond appropriately to the impact of the COVID-19 pandemic on their purchasing habits. The fourth assumption was that respondents represented the retail users in Northwest Arkansas. And last, the fifth assumption is that respondents understood the questions and responded truthfully to the survey.

Limitations

The sample for this study was only from Northwest Arkansas, which limited the generalizability of the findings to the broader population in the United States. Another limitation was that participants may not have answered the online survey questions truthfully or entirely, which may have caused them to misinterpret the usefulness and usability of BOPS. Additionally, low response rate, inflexibility, detachment, and forgetfulness might be practical challenges and limits of this research. Questionnaires must be short since most responders may not finish lengthy ones, limiting the information obtained (Taylor, 2022). Finally, there are a variety of factors that encourage consumers to choose BOPS. However, for the sake of simplicity, only a subset of these variables is considered in this study.

Delimitations

Delimitations are "the boundaries established by the researcher to restrict the scope of an investigation (Creswell, 2014). This researcher focused on how the independent variable's relative advantage, compatibility, and trialability predict customers' intentions to use BOPS in the United States. The research specifications included restrictions relating to geography and the characteristics of the participants. The researcher limited the sample frame to the Northwest Arkansas region in the United States, with a specific emphasis on customers who engage in Buy-Online-Pickup-at-the-Store (BOPS) transactions. Another limitation was the need for participants to possess previous experience in COVID-era BOPS, which facilitated the attainment of the necessary sample size by focusing on a particular locale and related knowledge. Finally, omnichannel for this study is restricted to BOPS, including in-store pickup, curbside pickup, and in-store dispensers.

Organization of the Dissertation

The dissertation comprises five Chapters. The initial Chapter examines the background, problem statement, study purpose, significance, research model, proposed hypotheses, and organizational structure. Chapter two conducts a comprehensive literature review on Omnichannel BOPS shopping adoption and the impact of the COVID-19 pandemic, presenting the theoretical underpinnings, proposed constructs, and supporting evidence for the conceptual framework. Chapter 3 outlines the research methodology, encompassing design, methods, measurement, sampling, data collection, and data analysis techniques. Chapter 4 presents the study's findings. Finally, Chapter 5 elaborates on these findings, exploring their theoretical and managerial implications, addressing limitations, and offering suggestions for future research.

Chapter 2: Literature Review

The COVID-19 pandemic has significantly impacted customers' propensity to make online purchases (Dewalska-Opitek et al., 2022; Hwang et al., 2020). Dewalska-Opitek et al. (2022) posited that the movement from conventional consumers to online customers represents a prominent and enduring trend after the pandemic. Furthermore, the authors highlighted the strong preference among customers for omnichannel distribution among customers post the COVID-19 pandemic. This researcher intended to investigate the problem of retail managers having an insufficient understanding of the influence of the pandemic on customers' behavioral intentions towards a retailer's omnichannel service post-pandemic, which can lead to ineffective operational and marketing strategies not aligned with customer behavior and result in low performance and businesses closing.

Retailers must understand consumer behavioral intention to develop marketing campaigns and operational strategies to attract and retain customers (Keel, 2018; Jayasingh et al., 2022). Understanding customer behavior is crucial for devising strategies to attract and retain customers. According to Fertik (2019), poor retail performance results from changes in customer behavior. However, Hwang et al. (2020) noted that the success of the retailer's strategy is contingent on several characteristics of underlying consumer behavioral intention. The primary purpose of this research is to examine the impact of the COVID-19 pandemic in 2020 on consumers' inclination to utilize a retailer's omnichannel capabilities. This investigation assessed the attributes of Diffusion of Innovations, namely relative advantage, complexity, compatibility, observability, and trialability, and their relationship with behavioral intentions.

This Chapter examines scholarly literature, books, articles, and theories pertinent to the research problem to assist with a critical evaluation of COVID-19's effects on omnichannel

adoption. Although omnichannel retailing is a relatively new concept, several significant studies have helped define and conceptualize omnichannel consumer behavioral intention. This preliminary research has also revealed a gap in the study of omnichannel consumer adoption, particularly at the analysis and market disruption levels. This Chapter, therefore, summarizes and incorporates the primary omnichannel consumer adoption studies. It also summarizes the origins of the Diffusion of Innovation (DOI) theory for the study and concludes with a defense of its validity and application.

Empirical research for this literature review was gathered through the utilization of academic databases, including Academic Search Premier, Business Insights, Business Source Complete, Data USA, EBSCO, Google Scholar, JSTOR, news and newspapers, ProQuest, PQDT Open, Research Gate Online, and SAGE Journals Online. The search was conducted employing a set of keywords and search terms encompassing consumer behavior, consumer behavioral intention, coronavirus pandemic, COVID-19, omnichannel, omnichannel adoption, buy-online-pickup-in-instore, BOPS Adoption, click and collect, and innovations diffusion. Furthermore, certain articles included in this literature review were identified by examining reference lists from articles, dissertations, and journals obtained during the academic database search.

GAP in Omnichannel (BOPS) Behavioral Intention Literature

The rapid expansion of omnichannel shopping has significantly altered the retail landscape, providing consumers with convenient and accessible purchasing opportunities (Pantano & Viassone, 2014; Jayasingh et al., 2022; Chen et al., 2018; Savastano et al., 2019). In fact, omnichannel has grown in importance for academics and practitioners due to the multiple changes triggered by the pandemic in channel management and consumption behavior (Guthrie et al., 2021; Verhoef, 2021). In recent years, research on consumer behavior in omnichannel

purchasing has garnered significant interest, and the Marketing Science Institute (MSI) has identified it as one of its top research priorities from 2020–2022 (Jayasingh et al., 2022). Most previous research on omnichannel retailing has focused on the retailer's perspective, including supply channel management and integration. However, there are few studies on consumer behavior (Jayasingh et al., 2022). The following section highlights the gaps in the literature regarding omnichannel buy-online/pick-up-in-store (BOPS) consumer adoption.

The literature on omnichannel has focused mainly on retailer and customer perspectives, as discussed above. Kazancoglu and Aydin (2018) affirm that the bulk of omnichannel research has been undertaken from the retailer's viewpoint and has primarily disregarded the role of the consumer (Ozbük et al., 2020; Verhoef et al., 2015). Although consumer behavior has become more complicated due to several touchpoints, current research on the customers' viewpoint on omnichannel commerce is limited and intermittent (Shi et al., 2020). Earlier researchers have elucidated that the efficacy of omnichannel retailing strategies is frequently contingent upon customers' perceptions and utilization of the respective omnichannel service (Kazancoglu & Aydin, 2018; Mishra, 2020; Shen et al., 2018).

One emerging trend in omnichannel retail is the BOPS service, which enables consumers to buy products online and pick them up in person (Kim et al., 2017; Lee et al., 2020). BOPS offers several benefits, including reduced delivery time, cost reductions, and the chance for consumers to inspect and test products before making a final purchase (Gao & Su, 2016). While a considerable amount of research has been conducted on various aspects of BOPS purchasing, there needs to be more literature regarding the factors influencing consumer adoption of BOPS.

Kim et al. (2020) investigated the effects of BOPS service antecedents on consumers' BOPS choice behavior. While the authors provide illuminating insights into the factors

influencing BOPS adoption, it is essential to note that these insights are not exhaustive. They noted that previous omnichannel studies focused on channel composition, inventory management, and consumer migration between purchasing channels (Kim et al., 2020). Juaneda-Ayensa et al. (2016) investigated omnichannel selection variables. However, there are insufficient studies on the factors influencing consumers' BOPS decisions. Thus, Kim et al. (2020) emphasized the need for additional research using BOPS-aligned factors to understand the BOPS adoption comprehensively.

Moreover, a study conducted by Kim et al. in 2017 examined the attributes of innovation adoption as expounded in the Diffusion of Innovation (DOI) theory, along with the risk factors inherent in online transactions, serving as the principal antecedents influencing the intention to engage with Buy Online Pick-Up in Store (BOPS) services, as posited by Cho in 2004 and Rogers Everett in 1995. The researchers observed that the available body of literature concerning BOPS remains constrained due to its nascent stage. While some studies have been directed towards BOPS from retailers' perspective, investigations centering on consumer outlook still need clarification (Gallino & Moreno, 2014; Gao & Su, 2016). Consequently, the existing void in knowledge necessitates a comprehensive identification of the factors predisposing consumers to adopt BOPS (Kim, 2017).

Notably, the influence of COVID-19 on consumer behavior toward omnichannel adoption is limited and poorly understood (Chen & Chi, 2021). Existing research on online and offline purchasing does not adequately address the factors influencing consumer adoption of BOPS services and the impact of the COVID-19 pandemic on BOPS adoption (Kim et al., 2020; Jayasingh et al., 2022; Kim et al., 2017; Chen & Chi, 2021). The identified literature gap highlights the need for additional research to comprehend the BOP's adoption determinants and

drivers (Kim et al., 2017; Kim et al., 2020). Recognizing and understanding various customer behavioral intentions in an omnichannel environment, on the other hand, may help retailers in providing a unified and holistic experience for their customers, as well as academics in identifying gaps in consumer behavior literature in the omnichannel context (Mishra, 2020; Ozbük, 2020). This dissertation seeks to address this knowledge gap by examining the main determinants and drivers of BOPS adoption, concentrating on consumer intention to use BOPS.

Empirical Studies on General Omnichannel Adoption

Customer behavioral intention research predominantly centers on identifying factors that impact purchasing intent, willingness to pay, and the selection of channels or adoption of novel technologies (Gerea et al., 2021). Juaneda-Ayensa et al. (2016) conducted seminal research on omnichannel adoption of consumer practices. Their investigation delved into the determinants influencing the behavior of omnichannel consumers, encompassing their acceptance and intent to incorporate new technologies within the purchasing process. In pursuit of this objective, Juaneda-Ayensa et al. (2016) devised a distinctive model for delineating omnichannel purchasing behavior. This model incorporated variables from the unified theory of acceptance and use of technology, augmented by two additional variables: personal innovativeness and perceived security. The study's findings elucidated that the foremost predictors of purchase intent within an omnichannel context are personal innovativeness, expectation of effort, and performance expectancy (Juaneda-Ayensa et al., 2016). Nonetheless, it is essential to acknowledge a limitation within the study: its exclusive focus on technology adoption as the fundamental aspect of omnichannel adoption, disregarding the synergy between channels and channel engagement.

Kazancoglu and Aydin (2018) noted that the unified theory of use and acceptance of technology (UTUAT2) is not the only factor influencing consumer channel selection. Using

exploratory research with four distinct focus groups, Kazancoglu and Aydin (2018) extended Juaneda-Ayensa et al.'s (2016) research and investigated the factors influencing consumers' use of omnichannel in the apparel industry purchasing behavior. The study revealed that the predetermined variables of the unified theory of acceptance and use of technology 2 (UTAUT2) model, namely "performance expectancy," "effort expectancy," "facilitating conditions," "hedonic motivation," "habit," and "price value," have influenced omnichannel shopping purchasing intentions. This study proposed six additional omnichannel purchasing intentions in the apparel industry themes not disclosed in prior research: "perceived trust," "situational factors," "perceived risk," "anxiety," "need for interaction," and "privacy concern." The research, however, is limited to focus group interviews conducted at a solitary university with students from the same program.

Following the research conducted by Kazancoglu and Aydin (2018), a study by Silva et al. (2018) delved into the determinants that may influence consumer acceptance and adoption of omnichannel services. It was discerned that the perceptions of utility, usability, and compatibility wield a favorable impact on the brand experience, thereby significantly influencing the behavioral inclination toward utilization. Building upon these factors, Xu and Jackson (2019) investigated the elements governing consumer intentions on channel selection within omnichannel retail environments. Their investigation unveiled that attributes such as channel transparency, convenience, and uniformity contribute positively to customers' perceptions of behavioral control. Furthermore, their findings indicated that perceived behavioral control and the advantage in channel pricing positively influence channel selection intent. In contrast, perceived risk negatively correlates with customers' channel selection intent (Xu & Jackson, 2019).

Empirical Studies on BOPS Adoption

BOPS is the fundamental business paradigm in omnichannel commerce. According to Forrester (2014), when questioned about omnichannel priorities, four retailers selected BOPS as the most important. In line with this tendency, BOPS articles have increased in recent years. However, research on BOPS is relatively limited, and the existing research has concentrated on the operator viewpoint.

Consumer-focused research on BOPS services remains scarce and confined in scope, as noted by Kim et al. (2017). An early exploration of this domain by Chatterjee (2010) delved into the factors influencing consumers' decisions regarding the utilization of 'order online, pick up in-store services versus traditional in-store or online delivery methods. Empirical analysis revealed a positive correlation between purchase constraints, such as price sensitivity and time constraints, and the adoption of BOPS. However, the purchase objective of minimizing effort yielded mixed results. Furthermore, it was observed that retailers offering BOPS experienced larger purchase sizes and increased repurchase intentions, indicating that BOPS serves as a competitive differentiator, enhancing a retailer's capacity to meet customer service needs across various purchase occasions (Chatterjee, 2010).

Further, Milioti et al. (2020) investigated the feasibility of implementing a click-and-collect service within the e-commerce domain. Their objective was to discern the determinants of consumer adoption of this service. To achieve this, the authors systematically synthesized relevant factors, drawing from extant scholarly literature, that might influence consumers' inclination to utilize and pay for the click-and-collect service. Their empirical investigation illuminated the factors encompassing the perceived environmental sustainability associated with the service, perceived temporal constraints, vehicular usage within urban centers, and the

frequency of online purchasing exert statistically significant effects on consumers' intent to engage with this service. These model outcomes can be instrumental in strategically selecting service locations and formulating pricing and marketing strategies to render the click-and-collect service more attractive and viable to the customer base (Milioti et al., 2020).

In their study, Kim et al., (2017) applied Everett Rogers's (1995) DOI theory to comprehend the decision-making process of consumer behaviors regarding BOPS. The DOI theory investigated contemporary consumers' perceptions of the BOPS-focused business model and its potential diffusion. The study employed a scenario-based factorial survey method to assess the moderating effects of situational variables (precisely, location convenience) and product type (involvement). This approach aimed to explore how consumers' intentions to use BOPS were influenced by the perceived characteristics of innovation defined in Rogers's (2003) DOI theory and their perceptions of the risks associated with online shopping. The findings revealed that attributes associated with innovation played a predictive role in consumers' intentions to use BOPS, and perceptions of risk in online purchasing significantly influenced their intention to engage with BOPS. Furthermore, situational factors, such as location convenience, were found to moderate the intention to utilize BOPS, with consumers perceiving BOPS as more aligned with their lifestyles and, consequently, using the service more frequently when the retrieval location was in close proximity (Kim et al., 2017).

Kim et al. (2020) investigated the influence of BOPS service precursors on consumers' BOPS selection and purchasing behavior. The authors conducted online consumer surveys using the Unified Theory of Accepted and Use of Technology. The finding indicates that performance expectations, trust, compatibility with BOPS purchasing, hedonic incentive, and social influence influenced behavioral intentions in omnichannel BOPS, confirming findings by Kim et al.,

(2017) based on a Technology Acceptance Model perspective. However, price value and anticipated effort were not considered significant selection criteria for BOPS purchases. The authors noted that although numerous factors influence consumer behavior, only a few were chosen for this study for simplicity (Kim et al. 2020)

Further, Kim et al.'s (2022) study aimed to identify the determinants of BOPS utilization intention among omnichannel automotive retail consumers. The researchers propose a conceptual framework, the extended task-technology fit model, or UTAUT-TTF, which synthesizes different theoretical perspectives and reveals the mechanism underlying consumer behavior. The findings suggest that performance expectations, effort expectations, and facilitating conditions mediate usage intention via task-technology fit. However, social influence had no significant effect on usage intention. Personal inventiveness, chosen for the extension of UTAUT, was the most accurate predictor of the customer's intention to use BOPS. The research was conducted in the context of automotive retailing, and the prior BOPS experience of customers was not considered. The BOPS purchasing experience of consumers for products other than automobiles may influence their Intention to Use BOPS when purchasing an automobile (Kim et al., 2020).

BOPS adoption behavior is studied by Li et al. (2022) concerning the density of retailers' stores at various distances from consumers. By analyzing 420,020 online transactions (including 33,546 BOPS orders) generated by 110,909 customers via an omnichannel retailer, Li et al. (2022) investigated the effect of retailers' store density at varying distances from customers' locations on BOPS adoption behavior. Their research demonstrated that retailers' store density has considerable positive effects on consumers' adoption of BOPS at medium distances but has a negative effect at small distances.

Despite the growing trend of buy-online/pick-up-in-store (BOPS) services in retail, the literature on buy-online/pick-up-in-store (BOPS) consumer adoption is limited (Kim et al., 2017; Lee et al., 2020). The current research lacks a comprehensive comprehension of the factors influencing consumers' intent to utilize BOPS (Kim et al., 2020). Moreover, the impact of the COVID-19 pandemic on consumer behavior toward omnichannel adoption and BOPS adoption post the COVID-19 pandemic is inadequately understood (Chen & Chi, 2021). This study aimed to bridge the knowledge gap by investigating the main determinants and drivers of BOPS adoption, focusing specifically on consumer intentions to use BOPS post the COVID-19 pandemic, which may assist retailers in providing a unified and holistic customer-focused strategies and contribute to filling gaps in consumer behavior literature in the context of omnichannel retailing (Mishra, 2020; Ozbük, 2020).

Theory Discussion

Omnichannel capabilities, such as BOPS, are a relatively new business model from the brick-and-mortar and online stores. BOPS is enabled by industrial and consumer technological advancements (Freeman et al., 2011; Kim et al., 2017; Piotrowicz & Cuthbertson, 2014). At a high level, omnichannel refers to placing the consumer at the center of enterprise interactions through channel integration, consistency, and a seamless customer experience (Verhoef, 2015). As such, Gerea et al. (2021) have observed a prevailing trend in consumer behavior research focusing on comprehending the factors influencing purchasing intent, willingness to pay, channel preferences, and adoption patterns, all of which foreshadow the emergence of omnichannel strategies. Bendoly et al. (2005) have highlighted the substantial potential of omnichannel approaches in enhancing the online shopping experience for customers. Nevertheless, Herhausen et al. (2015) have pointed out that utilizing multiple channels within omnichannel strategies may

yield unforeseen consequences. Furthermore, Agarwal (2000) posited that potential omnichannel innovation users or consumers may either embrace or reject them based on their beliefs and behavioral intentions. Consequently, researchers have found it pertinent to employ diffusion theory to evaluate and elucidate consumer behavior and behavioral intentions concerning the adoption of omnichannel strategies (Cao & Li, 2018; Gerea et al., 2021; Herhausen et al., 2015).

The Diffusion of Innovation Theory

The French sociologist Gabriel Tarde initially studied the theory of Diffusion of Innovations (DOI) in 1903 (Toews, 2003). Subsequently, the investigation of innovation diffusion gained prominence within rural sociology in the American Midwest during the 1920s and 1930s (Valente & Rogers, 1995). The adopter categories, central to the contemporary DOI theory proposed by Everett Rogers, were developed by Ryan and Gross in 1943. Additionally, Katz (1957) is credited with the pioneering establishment of the concepts of opinion leaders and followers, elucidating how media interfaces with these two categories (Mack, 1985).

Rogers (1962) popularized the Theory of Diffusion of Innovations (DOI), positing that the adoption of innovations hinges upon the interplay between the nature of the innovations themselves and the disposition of the adopters. Central to the DOI theory is the conceptualization of potential adopters, or clientele, who elect to accept or spurn an innovation contingent upon their cognitive and behavioral predisposition towards the novelty in question, as exemplified by the case of omnichannel (Agarwal, 2000). Notably, within diffusion research, the terms "technology" and "innovation" are frequently employed interchangeably, as observed in the work of Sahin (2006).

As Rogers' (1995) Diffusion of Innovation (DOI) theory posited, innovation encompasses novel ideas, practices, or entities as perceived by individuals or collectives. Kim (2017)

suggested that the omnichannel concept, exemplified by Buy Online, Pickup In-Store (BOPS), may be considered within the purview of innovation for two principal rationales: firstly, BOPS constitutes a comparatively new business model, and secondly, BOPS stands distinctively distinguishable from traditional business paradigms like brick-and-mortar establishments and exclusive online retailers. The uniqueness of adoption is more closely tied to the innovation-decision three processes of knowledge, persuasion, and decision Kim (2017). Uncertainty is a significant barrier to innovation uptake (Sahin, 2006), which is why Rogers (2003) notes that "consequences are the changes that occur in an individual or a societal system as a result of the acceptance or rejection of an invention may generate uncertainty" (p. 436).

Innovation Adoption

The pandemic acted as a catalyst for the rapid adoption of omnichannel strategies. Businesses encountered unprecedented challenges stemming from lockdowns and social distancing protocols, which disrupted traditional retail operations. As a result, organizations had to quickly adapt to the new normal and explore omnichannel approaches to ensure business continuity. The urgency imposed by the crisis accelerated the adoption of these strategies, with businesses realizing the importance of integrating online and offline channels to meet customer needs.

The DOI theory categorizes consumers into five types based on their level of innovativeness, considering factors such as relative advantage and difficulty (Rogers, 1995). According to Rogers (2003), these categories include:

1. Innovators: Innovators are the first to adopt new ideas or products. They typically have a high social status and are influential in spreading innovations to others.

2. Early Adopters: Early adopters are opinion leaders. They have a higher social status, are well-respected in their social networks, and are often sought after for advice and opinions.

3. Early Majority: The early majority represents the average members of a social system who adopt innovations after a substantial proportion of the population has already adopted them.

4. Late Majority: The late majority comprises individuals who adopt innovations later in the diffusion process. They are skeptical and adopt innovations mainly due to social pressure or economic necessity.

5. Laggards: Laggards are the last to adopt innovations and do so only when they have become well-established or when the social pressure to adopt becomes significant. They have traditional and conservative views and are resistant to change.

In addition to innovativeness, other factors such as proportional benefit, difficulty, social system norms, prior experience, and perceived needs influence the adoption of innovations (Rogers, 1995). The distribution of adopters across these categories follows a normal distribution, with innovators and early adopters being a smaller proportion and the early and late majority making up most of the population (Oliveira & Martins, 2011). Therefore, innovativeness is a socially constructed trait that reflects an individual's openness to change established practices (Van Braak, 2001).

Attributes of Diffusion of Innovations

The DOI theory provides a comprehensive framework for comprehending how consumers adopt new technologies or services, such as BOPS (Rogers, 2003). The inclusion of DOI attributes, namely relative advantage, compatibility, complexity, trialability, and

observability, in BOPS customer adoption research is validated due to their applicability and empirical support for comprehending consumer behavior (Yuen et al., 2018).

Relative Advantage

The concept of relative advantage, as posited by Moore and Benbasat (1991), Liao and Lu (2008), and Rogers (1998), pertains to the extent to which an individual perceives an innovation as conferring notable benefits in comparison to its predecessor. Yusof (1999) asserts that this construct is instrumental in evaluating an individual's disposition toward a novel concept or invention. Furthermore, it encompasses the advantages of innovations within a social system (Rogers, 2003), culminating in heightened efficiency, economic gains, and improved social status. Empirical investigations suggest that users' intention to adopt new technology is notably influenced by their recognition of its relative advantages in relation to incumbent technologies (Al-Jabroi & Sohail, 2012; McCloskey, 2006; Rogers, 2003).

Prior studies have established that relative advantage plays a pivotal role in shaping the adoption of innovations. This body of research has consistently revealed a positive association between an innovation's relative advantage and its rate of adoption, as indicated by various scholars (Abbas et al., 2017; Ali et al., 2019; Kaabachi et al., 2016). Kim (2017) asserts that the perceived relative advantage is the most robust predictor of consumer adoption of innovations. Notably, a substantive distinction exists between perceived relative advantage and other attributes of innovation (Jeyaraj et al., 2006; Rogers, 1995; Wang et al., 2018). Kim (2017) observes that while other characteristics may pertain to the innovation in question, perceived relative advantage underscores the extent to which the utilization of the innovation surpasses the incumbent practice (Rogers, 1995). Consequently, a heightened degree of perceived relative

advantage signifies that the innovation is perceived as superior to its alternative based on the consumer's comprehensive evaluation (Kim, 2017).

However, when the previously employed approach becomes suboptimal, a rational consumer is expected to exhibit a heightened inclination toward adoption under such circumstances (Kim et al., 2017; Wang et al., 2018). Verhoef and Langerak (2001) and Al-Jabri and Sohail (2012) have determined a positive correlation between relative advantage and the intention to engage with mobile banking services. In this context, Kim et al. (2017) and Fatika et al. (2022) propose that the perceived relative advantage constitutes a secondary perception akin to the attitude construct, grounded in a comprehensive evaluation of the innovation, and directly influences consumers' adoption intention. Consequently, it is anticipated that as customers perceive specific benefits stemming from omnichannel experiences, their proclivity towards its utilization will correspondingly increase (Kim et al., 2017; Wang et al., 2018).

Kim (2017) has defined the relative benefit of BBOPS as the degree to which customers perceive BOPS as superior to alternative modes of service, including online or offline-only channels. In their research, Fatika et al. (2022) observed that buyers can choose their preferred method of receiving purchased items through home or workplace delivery or in-person pickup at a physical retail outlet during the purchasing process. Using BOPS enables customers to select a specific store for item retrieval. If the chosen store's proximity is closer than expected, customers tend to favor BOPS over delivery, which involves waiting time (Fatika et al., 2022). Moreover, when the pickup location aligns conveniently with customers' regular activities, it enhances their perception of BOPS's convenience (Fatika et al., 2022).

Furthermore, the concept of relative advantage, as identified by Fatika et al. (2022), represents an individual's perceived gain, achievable through the BOPS service framework, in

terms of enhanced convenience and time savings. Fatika et al. (2022) assert that the perceived relative advantage of employing BOPS in customer service management can enhance shopping efficiency and expedite customer shopping. The relative advantage in innovation is established when it offers superior performance, such as improved efficiency, elevated status, and economic rewards, compared to previous services employed for the same fundamental task (Flight et al., 2011; Kim, 2017). Consequently, customers are more inclined to use BOPS when perceived to outperform its competitors (Kim, 2017).

Compatibility

Compatibility has been characterized as the degree to which an innovation or a new concept is compatible with prior experiences, sociocultural ideas, and values of consumers (Rogers, 2003). Hence, perceived compatibility refers to the extent to which a user perceives an event to be compatible with their current values, beliefs, habits, and present and past experiences and demands of prospective adopters (Aljabri & Sohail, 2012; Chen et al., 2004; Moore & Benbasat, 1991; Rogers, 1995). Compatibility is crucial to innovation since conformity with the user's lifestyle may accelerate adoption. Also, perceived compatibility is a benchmark provided to consumers connected to current habits and lifestyles, which have innovations that offer comfort for customers (Fatika et al., 2022). Individuals are more likely to embrace "functionally" suitable information technology (Dearing et al., 1994; Eastin, 2002; LaRose & Atkin, 1992; Perse & Courtright, 1993). For example, Rogers (1995) assumes that individuals are more likely to accept an invention compatible with the technology they currently use and with which they are familiar. Therefore, the degree to which an invention is compatible with existing ones may "accelerate or slow its adoption rate" (Eastin, 2002, p. 225).

Compatibility evaluates the degree of congruence between an invention and numerous customer characteristics and application situations (Karahanna et al., 2006). Wang et al. (2018) indicated that customers might evaluate compatibility differently in omnichannel capabilities, such as adopting automated parcel stations. For example, busy working professionals with limited availability may discover autonomous parcel service self-collection to be markedly compatible with their lifestyles, as it eliminates the necessity of awaiting parcel delivery at their residences during official hours. Instead, they can conveniently retrieve the parcel from the service facility en route to their residences, obviating waiting for the parcel to be delivered to their homes during office hours. This compatibility factor aligns with the framework of intrinsic motivational determinants, as posited by Vallerand (1997). When the APS self-collection modality harmonizes with a consumer's requisites, valuation, and manner of living, it engenders inherent incitements that foster adoption.

Olukotun and Igbinedion (2009) asserted that the higher the pace of adoption, the more seamlessly an invention fits into the culture. Liao and Lu (2008) suggested that the impression of compatibility while utilizing a web-based e-learning system correlates positively with the user’s adoption intentions. Meuter et al. (2005) have also discovered that compatibility is a crucial antecedent of customer preparedness and testing of self-service technologies such as computerized hotel check-in and telephone banking. Moreover, Kim et al. (2017) indicated that the greater perceived compatibility of BOPS with personal beliefs and lifestyles would increase the likelihood that a consumer will try BOPS. Thus, customers who perceive compatibility with BOPS are more inclined to embrace BOPS (Kim et al., 2017).

As customers transition from physical to online channels, the perceived interoperability across channels greatly influences their purchase intent (Amaro & Duarte, 2015). In the

omnichannel context, Shen et al. (2018) stated that prior experience with specific purchasing channels should be considered when analyzing consumers' omnichannel buying intent. Customers tend to depend less on conscious judgments as their degree of habit rises. Therefore, specific information technology will influence how they assess the focal technology (Limayem et al., 2007). Similarly, Ali et al. (2019) contended that consumers will be more inclined to engage in omnichannel purchasing if their shopping experiences are congruent with their past buying experiences and preferences. Therefore, a positive relationship exists between perceived compatibility and omnichannel purchasing intent (Shi et al., 2020).

Complexity

Complexity is a sense of risk or difficulty in implementing an invention (Ali et al., 2019; Cheung et al., 2000; Rogers, 2003). According to Jamshidi and Kazemi (2020), a new concept or innovation mixes complexity and simplicity. This conceptualization emphasizes the difference in complexity between whether an invention is simple or difficult to use (Ali et al., 2019). However, in the BOPS context, complexity is redefined as the degree to which customers believe BOPS to be somewhat difficult to comprehend and utilize (Kim et al., 2017). Therefore, omnichannel innovations that require users to gain new knowledge and skills are accepted more slowly than simpler innovations (Rogers, 2009).

Perceived complexity, or its twin construct on perceived ease of use in the technology acceptance model, is a recurring concept in the larger innovation adoption research to predict consumers' behavior intention toward adoption (Chen et al., 2002; Weigel et al., 2014). In contrast, unless it is remedied by interpersonal communication or marketing efforts, the impression of complexity has a detrimental influence on innovation spread (Rogers et al., 1980). Complexity is the opposite of usability. Previous research identified a negative association

between complexity and consumer acceptance of new products (Abbas et al., 2017; Gerrard et al., 2006; Gerrard & Cunningham, 2003; Kaabachi et al., 2016; Ram & Sheth, 1989; Rogers, 1995; Sanni et al., 2013; Wang et al., 2018). Furthermore, Cheung et al. (2000) discovered that complexity had a detrimental impact on Internet use uptake.

Also, the complexity of usage is a crucial barrier to mobile banking uptake (Al-Jabri & Sohail, 2012). A substantial body of empirical research on mobile technology suggests that the innovation's perceived complexity inhibits consumers' desire to use mobile banking (Au & Kauffman, 2008; Mallat, 2007; Ondrus & Pigneur, 2006). For example, in the research by Al-Rahmi et al. (2019), complexity criteria were used to reflect a customer's judgment of the degree of difficulty determining his or her desire to use self-collection systems. Logically, the more difficult an invention is to use or considered challenging to use, the less likely an adopter will be able to consume it (Olatokun & Igbinedion, 2009). Furthermore, Zhou et al. (2010) and Agag and El-Masry (2016) indicated that perceived complexity influenced intentions to use mobile banking and views toward online travel communities. Thus, if utilizing BOPS is seen as complex or unclear, a customer will be less inclined to attempt it (Kim et al., 2017).

Complications may occur as users engage with the omnichannel applications for ordering and pickup at the store. As consumers interact with the retail store's system for product collection, the self-collection service becomes sophisticated (Yuen et al., 2018). Many processes of identity verification are built into the system to ensure security, such as scanning the product serial number and barcode and validating the invoice number, which enhances the difficulty of product pickup (Syahadiyanti & Subriadi, 2018; Wang, 2018; Yuen, 2018). Although some customers may consider the additional work little, others may find it difficult, establishing an unfavorable attitude toward BOPS (Wang, 2018; Yuen, 2018).

Observability

Observability is the extent to which an innovation is observable, and the innovation's impact is seen by others, as well as the ability to recognize the net benefit when the innovation is implemented (Al-Rahmi et al., 2019; Pannell et al., 2006; Rogers, 2003; Yuen et al., 2018). Moore and Benbasat (1991) reframed the initial construct of observability by introducing two distinct components: visibility and result demonstrability. Within the omnichannel framework, observability is characterized as the capacity to employ BOPS (Buy Online, Pickup in Store) applications conveniently, irrespective of time or location, to perceive the outcomes of in-store pickup transactions promptly, and to effectively communicate the benefits of accessibility to others (Al-Jabri & Sohail, 2012). Customers gather information on omnichannel and its advantages from exposure, promoting adoption. Adopters can better comprehend the innovation when the practical consequences are instantly obvious (Yi et al., 2006).

Additionally, this attribute refers to the assumption that when an innovation benefit does not immediately answer a consumer's issue or need, it will not spread across a community as rapidly as an invention that is more of a problem solution (Olatokun & Igbinedion, 2009). Individuals are more likely to accept an innovation when it is easy to observe and when the innovation results are visible (Yuen et al., 2018). In this context, it is expected that consumers will form stronger intentions to use the omnichannel service if the procedures for omnichannel such as BOPS, can be quickly learned from observing other users, explained to other users, or learning about the benefits of utilizing omnichannel from other consumers (Yuen et al., 2018), thereby indicating the extent to which the outcomes of omnichannel may be seen by others (Olatokun & Igbinedion, 2009). What is seen is what can be transmitted, and the consequence of what has been observed may affect dissemination (Olatokun & Igbinedion, 2009).

Thambiah et al. (2010) contend that certain innovations necessitate a communication medium for explanation, while some novel concepts are inherently comprehensible and do not necessitate any communicative medium. In a parallel vein, Yusof (1999) and Gerrard and Cunningham (2003) posit that the apprehension of the perceptibility of intangible services presents a formidable challenge. This understanding implies that omnichannel needs a straightforward method of communication for consumers to demonstrate their increased visibility (Ali et al., 2019). Finally, omnichannel services can be intangible, necessitating further efforts to emphasize their product qualities (Ali et al., 2019). In previous empirical investigations, Yusof (1999) and Norskov et al. (2015) discovered observability's favorable and considerable influence on creativity. As a result, Ali et al. (2019) suggested that observability will favor omnichannel adoption.

Trialability

Trialability is the consumer experience of an invention during a short time (Rogers, 2003). It refers to the consumer's ability to test innovation before choosing whether or not to embrace it (Olatokun & Igbinedion, 2009). Trialability is essential for prospective consumer adopters since trials enable potential adopters to test the innovation (Yuen et al., 2021). Previous research has shown that a customer's experience (i.e., trialability) with a novel concept influences the rate of future adoption (Ali et al., 2019; Ali & Chin-Hong, 2015; Gardner & Amoroso, 2004; Hausman & Stock, 2003; Sanni et al., 2013). For example, individuals allowed to explore innovations are more likely to accept them (Agarwal & Prasad, 1998; Rogers, 2003). Moreover, people have less fear or uncertainty when deciding whether to adopt an untried invention since they can learn by trying it out (Lee et al., 2011). Tan and Teo (2000) provide further support by arguing that if consumers can sample the innovation, it would alleviate some

unknown worries and lead to acceptance. Hence, greater trialability implies that people have less trepidation or uncertainty when determining whether to accept the innovation since they can learn by trying it out (Yuen, 2018).

Trials offer a free and safe environment for testing innovations, and customers may sample the innovations they are interested in (Stromberg et al., 2016; Yuen, 2018). Consumers may test new ideas in a secure and safe environment, and they can investigate those that pique their interest (Stromberg et al., 2016). Unanticipated trial experiences, such as the COVID-19 pandemic, require customers to use omnichannel, which may result in good surprises that build favorable behavior intention about adoption (Yuen, 2018). Likewise, unexpected trial results may provide pleasant surprises, which may aid in developing positive adoption intention (Yuen, 2018).

However, Shi et al. (2020) noted that earlier research's innovation characteristics are less suitable for the omnichannel environment because they fail to reflect context-specific assessments of innovation adoption. Trialability, for example, is seen as a significant innovative feature of mobile banking since consumers must first register with the bank before trying the mobile services. Nevertheless, there are few impediments to omnichannel shopping adoption (Aljabri & Sohail, 2012). As a result, rather than integrating a wide variety of innovative features, earlier research advised concentrating on context-specific elements with the strongest predictive power on adoption choices (Liao et al., 1999; Lin, 2011; Shi et al., 2020). However, the research results by Kapoor (2013) confirm trialability as one attribute that significantly impacts the targeted consumers' behavioral intentions in the context of mobile banking applications. Also, the COVID-19 pandemic led to the forced use of omnichannel, which offered customers a trial opportunity with omnichannel, which may influence customer perception and

adoption intent (Hwang et al., 2020). Therefore, trialability is a plausible attribute to consider in the COVID-19 pandemic situation in omnichannel adoption studies.

Diffusion of Innovation Research

Shi et al. (2020) conceptualized omnichannel customer experience and developed a survey instrument using a mixed-methods approach. Using diffusion innovation theory, the researchers developed a nomological model connecting perceived compatibility and perceived risk to omnichannel purchasing intent. Data sets contain both a pretest and a model test. According to the findings, perceived compatibility and risk influence customers' purchasing intentions (Shi et al., 2020).

Furthermore, Wang et al. (2018) conducted a study on consumers' adoption of APS and analyzed their perceptions of their characteristics and attitude. The results of a survey conducted in Singapore that received 170 genuine responses were analyzed using structural equation modeling (SEM). APS's positive attitude and perceived relative advantage directly impact adoption intent, whereas consumers' perceptions of compatibility, trialability, and complexity have indirect effects.

Yunus (2014) also examined the influence of innovation diffusion (i.e., relative advantage, compatibility, and trialability) on mobile banking intention via consumer behavior intention. The study concentrates on bank mobile banking users in Banda Aceh and employs the techniques of purposive sampling and path analysis. Validating the conclusion of Wang et al. (2018), the results demonstrate that relative advantage, compatibility, and trialability significantly influence consumer intention to use. In contrast to Wang et al. (2018), this study found that compatibility had no substantial positive influence on consumers' intent to use.

Al-Jabri and Sohail's (2012) findings also add to the contradictory research on DOI attributes. This study investigates the factors influencing the adoption of mobile banking. According to the findings, relative advantage, compatibility, and observability positively influence adoption. Trialability and complexity have no influence, but the perceived risk impairs adoption. However, these results contradict previous research findings (Wang et al., 2018; Yunus, 2014).

Likewise, Olatokun and Igbinedion (2009) investigated the DOI attributes of automatic teller machines (ATMs) in Nigeria, focusing on ATM users. The results revealed that respondents believed in ATMs' safety, usability, and the fact that they were tested before use. Relative advantage, complexity, compatibility, and trialability were found to significantly influence behavior intention toward ATMs, which significantly influenced the intention to use them. Observability had the most significant effect on attitude. Thus, to increase BOPS adoption, retailers participating in the BOPS competition should guarantee greater relevance to customers' requirements, greater compatibility with BOPS norms and lifestyles, and less complex and user-friendly applications.

Despite the manifest advantages of innovation, a prevalent challenge faced by both individuals and organizations pertains to expediting the rate at which innovations are adopted and diffused (Rogers, 2003). This study employed Rogers' innovation attributes to address this concern within the context of BOPS. Numerous models are available for predicting user behavior toward a particular innovation, such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTUAT). Nevertheless, it is notable that these models draw upon analogous attributes (Kapoor, 2013). In contrast, the Diffusion of

Innovation (DOI) theory, with its well-established framework and distinct set of characteristics, offers valuable insights into adopting new technologies or services like BOPS (Rogers, 2003).

Empirical evidence and their applicability to conceptualizing consumer behavior support the incorporation of Diffusion of Innovation attributes, namely relative advantage, compatibility, and complexity, in BOPS customer adoption research (Kim et al., 2008; Moon & Kim, 2001). Overall, the attributes of the Diffusion of Innovations theory provide valuable insights into the adoption of BOPS and other similar innovations by consumers (Kim et al., 2017). Also, in the context of the COVID-19 pandemic, trialability and observability can further improve the adoption process by allowing consumers to test the innovation and observe its benefits before committing to full adoption (Kapoor et al., 2013). By understanding the relative advantage, compatibility, and complexity of innovation, businesses can design and market them to maximize their potential for adoption (Olatokun & Igbinedion, 2009).

Strengths and Limitations of DOI

The DOI theory provides a useful framework for comprehending how consumers adopt new technologies or services. This theory provides insights into the factors that influence the adoption process and can assist researchers and practitioners in gaining a deeper understanding of consumer behavior. As with any theoretical framework, the DOI theory has strengths and weaknesses. One of the theory's strengths is its comprehensiveness, which considers many aspects that impact the adoption process. The concept comprises five critical factors: innovation, communication channels, time, social system, and adopters (Rogers, 2003). This comprehensive methodology enables researchers to investigate the numerous aspects and factors influencing innovation uptake. The theory thoroughly explains the adoption process by analyzing aspects

such as the qualities of the innovation, the communication channels via which knowledge travels, and the social context in which the innovation is presented (Rogers 2003).

Another strength is its emphasis on identifying influential characteristics of adoption behavior. For instance, the theory emphasizes the significance of relative advantage, which refers to the perceived benefits of innovation compared to its antecedent. Rogers (2003) found that this characteristic consistently serves as a significant indicator of innovation adoption. Additionally, the theory acknowledges the importance of compatibility, which measures the congruence between innovation and consumers' existing values and experiences. Likewise, compatibility influences adoption positively, as consumers are more likely to implement innovations that align with their requirements and preferences (Rogers, 2003). The theory also considers complexity, representing the difficulty or risk of implementing an innovation. Complexity, however, has a negative effect on adoption, as consumers are less likely to implement innovations that they perceive as complex or hazardous (Rogers, 2003).

Another strength of the theory is its empirical backing and practical usefulness (Mascia & Mills, 2018). The hypothesis has been extensively tested across several disciplines and businesses. Research indicated that relative advantage, compatibility, and complexity significantly affect innovation uptake (Chatterjee, 2010; Kim et al., 2017). These empirical results offer insights for developing successful tactics to boost adoption and improve the consumer experience.

Nonetheless, it is imperative to acknowledge certain limitations associated with the Diffusion of Innovation (DOI) theory. Notably, works by Liao et al. (2009) and Kiwanuka (2015) have illuminated a deficiency in the theory's capacity to establish a direct correlation between individuals' attitudes and their decisions to adopt or reject innovations. Furthermore,

Kiwanuka (2015) indicated an absence of a discernible relationship between the decision-making process concerning innovation and the specific characteristics of the innovation itself. Contrary to the DOI theory's proposition of a linear progression of technology adoption, Lyytinen and Damsgaard (2001) demonstrated that the dispersion of complex technologies does not conform to such a linear pattern. Moreover, their findings have revealed that DOI theory-based studies have tended to overlook critical facets of the diffusion process within complex technological contexts. Consequently, Lyytinen and Damsgaard (2001) have contended that the DOI theory's descriptive capacity is circumscribed when elucidating intricate technological systems. Thus, researchers should exercise prudence and attentiveness when confronted with the intricate, interconnected, and knowledge-intensive attributes inherent to technology (Lyytinen & Damsgaard, 2001).

COVID-19 Pandemic Impact

Sheth (2020) noted that natural disasters like earthquakes, hurricanes, and pandemics like COVID-19 may disrupt consumer behavior. These changed consumer behavior and consumption. In early 2020, the World Health Organization (WHO) proclaimed a pandemic owing to the worldwide spread of COVID-19 (Khayru, 2021). After the COVID-19 pandemic was declared in March 2020, most governments immediately restricted its spread by disrupting people’s daily life (Lipi et al., 2021). The federal and state governments took many steps to stop the outbreak (Mutz & Gerke, 2020). To prevent the virus’s spread, state governments imposed lockdowns. Arkansas and 40 other US states shut down non-essential businesses in March–April 2020 (Schumaker, 2020). Many retail outlets were closed since retail stores were not “essential” (Hwang, 2020).

Businesses and customers were impacted by the pandemic's many social restrictions, such as lockdowns (Farrell et al., 2020). According to Morse et al. (2021), the pandemic affected work, school, recreation, and shopping. Schools and non-essential businesses closed, which favored online education and virtual workplaces. Social distancing reduces contact to prevent virus transmission by keeping people apart (Morse et al., 2021). Many workers were required to work from home, which fostered social distancing (Sayyida et al., 2021). However, behavioral changes related to pandemic outbreaks appear to be associated with personal protection (e.g., face coverings) instead of general behavior changes (Funk et al., 2009).

Additionally, the COVID-19 pandemic significantly impacted spending habits, with depression and anxiety predicting consumer behavior toward non-essentials and anxiety and COVID-19-related dread predicting it toward necessities (Taylor, 2022; Vazquez-Martínez et al., 2021). For example, Di Crosta et al. (2021) investigated Italian consumer behavior and its psychological determinants. Their findings indicated that depression was a predictive factor for consumer behavior related to non-essential items, whereas anxiety and COVID-19-induced apprehension were predictors of consumer behavior concerning essential goods. Additionally, personality traits, perceptions of economic stability, and self-justifications for purchases were found to predict consumer behavior for necessities and non-necessities. This study underscored the substantial influence of the COVID-19 pandemic on consumer behavior (Di Crosta et al., 2021).

Sheth (2020) similarly explored the impact of the COVID-19 pandemic on consumer behavior. The research concluded that confinement and social distancing disrupted consumers' purchasing and shopping patterns. Consequently, consumers adapted by developing the capacity to improvise and cultivate new habits. An illustrative example of this adaptation was the shift

toward remote shopping as an alternative to in-store visits. Furthermore, as consumers reverted to their previous shopping and purchasing routines, these practices were influenced by new regulations and protocols. Consequently, the emergence of novel habits was anticipated, driven by technological advancements, changing demographics, and innovative consumer responses to the convergence of work, leisure, and education (Sheth, 2020).

Further, Mason et al. (2020) investigated the impact of COVID-19 and the pandemic interventions implemented in the United States on consumer behavior. The findings corroborated Sheth's (2020) research, affirming that the COVID-19 pandemic altered consumers' product preferences, online browsing habits, and levels of post-purchase satisfaction (Mason et al., 2020). For instance, since the onset of the pandemic, consumers exhibited an escalated inclination toward virtual browsing and online shopping while showing a reluctance to purchase products intended for public consumption. Shaw (2022) suggested that this surge in online purchasing can be attributed to government-mandated restrictions and consumer concerns regarding potential health risks associated with in-person shopping. However, as 2021 drew to a close, significant progress in addressing health concerns, including vaccination campaigns and reduced hospitalizations in specific regions, resulted in relaxed government restrictions. Consequently, consumers resumed in-store shopping activities, resulting in a reduced volume of online purchases following the reopening of brick-and-mortar stores. Notably, consumers retained their heightened propensity for online shopping compared to pre-pandemic levels, a behavior pattern instilled during the pandemic lockdown period (Shaw, 2022).

Finally, Agarwal et al. (2021) noted that COVID-19 has significantly impacted various industries, with many experiencing production and increased demand declines. However, online services, such as video conferencing and online classes, have experienced a 25-30% increase in

Internet traffic. Agarwal et al. (2021) investigated the impact of the COVID-19 lockdown on the market for Internet-based services, focusing on online classes, groceries, streaming, and meetings. They aimed to determine if the sudden increase in demand would continue to disrupt traditional markets or return to their pre-lockdown condition. They found that traditional market spaces for services like education, essentials, and work meetings may face disruption, while cinematic experiences may keep theaters in business. Consumers in traditional market spaces and cinema industries may prefer a blend of online and offline services, and it may be some time before online services replace conventional ones (Agarwal et al., 2021).

COVID-19 Pandemic Impact on Retail Customers

Implementing regional lockdowns and social distance influenced human behavior (Avsar, 2021; Craven et al., 2020). Individuals spend more time at home, work and study from home, and interact with others less often (Sayyida et al., 2021). Similarly, consumer behavior is affected as consumers use Internet media to accomplish various shopping-related tasks (Sayyida et al., 2021). Due to extensive containment measures to limit the pandemic's spread, customers were forced to adopt new purchasing habits, including Internet purchases, home delivery, or contactless payments (Eger et al., 2021; Vinerean, 2022). For example, some customers were exposed to new services (e.g., BOPS) for the first time, resulting in behavior that may be sustained beyond the pandemic (Arora et al., 2020).

Additionally, Guthrie et al. (2021) studied the evolution of online purchase behavior during the COVID-19 pandemic to understand how customers use e-commerce to respond to, deal with, and adapt to environmental restrictions. In alignment with Kirk and Rifkin (2020), findings support the multi-perspective react-cope-adapt paradigm of limited consumer behavior online. However, Zhuang et al. (2020) noted that two variables (perceived deprivation and

perceived risk) may have conflicting impacts on customers' purchase behavioral intentions. The intensity of the pandemic had a positive influence on consumers' perceptions of danger and, therefore, a negative effect on consumers' propensity to engage in activities outside the home (Zhuang et al., 2020).

Nevertheless, Zhuang et al. (2020) suggested that an active pandemic condition poses a danger of exposure for every consumer who chooses to go outside, mainly if the excursion entails indoor interaction with other individuals. The real danger of going out is positively connected with the pandemic's local intensity, and consumers' perceived risk is substantially correlated with the actual risk (Megias et al., 2018;). Thus, pandemic intensity positively influenced consumers' perceived risk and, consequently, negatively affected consumers' probability of engaging in outside-the-home activities (Zhuang et al., 2020).

COVID-19 pandemic Impact on Retailers

The extent to which COVID-19 impacted businesses is unprecedented and transcends the most anticipated possibilities (Gao et al., 2020). Customers avoided the physical store as preventative measures from contracting the COVID-19 virus (Hesham et al., 2021; Taylor, 2022). Consequently, store sales fell significantly. Many retailers were compelled to close their physical channels and immediately turn to delivery services, rethinking their online offerings to maintain operations despite the economic downturn (Wang et al., 2020).

Concurrently and out of necessity, many customers were compelled to adopt online channels and touchpoints and alter their behavior and habits (Salvietti, 2022). For example, a poll conducted in April 2020 revealed that more than a quarter of US customers were avoiding public settings, and 58% intended to do so if the pandemic became more severe, with more than 30% of individuals adjusting their daily routines to avoid retailers in general; more precisely,

26% visited brick-and-mortar stores less often, whereas 70% visited Internet companies more frequently than before the recession (Unglesbee et al., 2020, 2020; Zhuang et al., 2020). Even after the conclusion of the pandemic, around 75% of customers may lack the confidence to visit brick-and-mortar establishments for some time (Pymnts, 2020; Zhuang et al., 2020).

Fairlie and Fossen (2021) investigated the economic ramifications experienced by enterprises in California during the pandemic. The findings demonstrated that during the second quarter of 2020, there was an average reduction of 17% in taxable sales compared to the corresponding period in 2019. This decline occurred despite concurrent year-on-year sales growth of approximately 3% to 4%. The analysis revealed that establishments subject to mandatory lockdowns, notably the hotel industry, encountered the most pronounced contraction in sales at 91%. In contrast, online sales surged by 180%. These outcomes substantiate antecedent research conclusions, affirming that the localized imposition and enforcement of lockdown measures, alongside individual behavioral adaptations in response to perceived local transmission of COVID-19, substantially influenced business performance dynamics (Fairlie & Fossen, 2021).

Additionally, Hwang et al. (2020) noted that at the height of the pandemic, when many shops temporarily shuttered their physical storefronts owing to stay-at-home orders and forced non-essential company closures, several online-only businesses saw increased sales. Numerous shops that relied on foot traffic to physical storefronts declared bankruptcy (Hwang et al., 2020). Meanwhile, online shops such as Amazon and Wayfair saw a rise in sales as people transferred their purchasing habits to the Internet (Cohan, 2020; Mattioli & Herrera, 2020). Thus, when considering the conflicting results of COVID-19 on online and offline businesses, it is essential to understand how COVID-19 has altered fundamental consumer behavior in retail settings.

Omnichannel Approach

Omnichannel consumers use multiple channels throughout their purchasing journey (Juaneda-Ayensa et al., 2016). Concepts on how customers use or behave have emerged from the omnichannel discussion (Ozbuk, 2020). Sit et al. (2018) noted that customers increasingly interact with retailers across numerous channels during the same purchasing journey. For example, omnichannel shoppers engage in research shopping behavior by gathering related information via one channel, whether offline or online, but ultimately make purchases via another (Flavián et al., 2019; Grewal et al., 2017; Herrero-Crespo, 2021; Truong, 2021; Verhoef et al., 2015;).

Last, consumers use several tactics when gathering information. The first is showrooming, which refers to searching for information offline and purchasing a product online. Webrooming involves searching for information online and purchasing a product offline. The final concept is click and collect, which implies a connection between physical stores and online channels. Thus, these are three prevalent omnichannel concepts and behaviors involving digital and physical stores (Herrero-Crespo, 2021).

Click and Collect or Buy Online. Pick Up at the Store (BOPS)

Sit et al. (2018) and Arvidsson et al. (2019) suggested that showrooming and webrooming are contemporary examples of omnichannel shopper behaviors driven by technological advancement. Consequently, retailers implemented functionalities such as “click and collect” in response to observed changes in customer behavior, such as showrooming and webrooming (Jocevski et al., 2019). As part of an omnichannel strategy, click-and-collect and in-store orders are new formats that retailers redefine in brand experience (Mosquera et al., 2017). The differentiation is significant because a retailer has no control over consumer behavior, unlike

functionality implementation and channel integration (Mosquera et al., 2019; Beck & Rygl, 2015).

However, the click-and-collect functionality allows customers to purchase a product online and pick it up at a physical store (Gallino & Moreno, 2014). In this context, click and collect include functionalities such as BOPS, buy-online-ship-to-store (BOSS), and pick-up today (PUT). All these processes are a link between brick-and-mortar establishments and online channels. In addition, it enables the consumer to place an order through online channels and then collect the merchandise in a physical store (Beck & Rygl, 2015).

Finally, Balasubramanian et al. (2002) noted that consumers can use the click-and-collect strategy to reserve or purchase products via online channels at any time or location. Most importantly, it strengthens the customer-business relationship (Alba et al., 1997; Balasubramanian et al., 2005). Thus, Brynjolfsson et al. (2013), Hagberg et al. (2016), and Arvidsson et al. (2019) have characterized the omnichannel merchandising model as achieving integration of the three channels (i.e., physical, online, and mobile) and allowing consumers to purchase seamlessly across them.

Benefits of BOPS

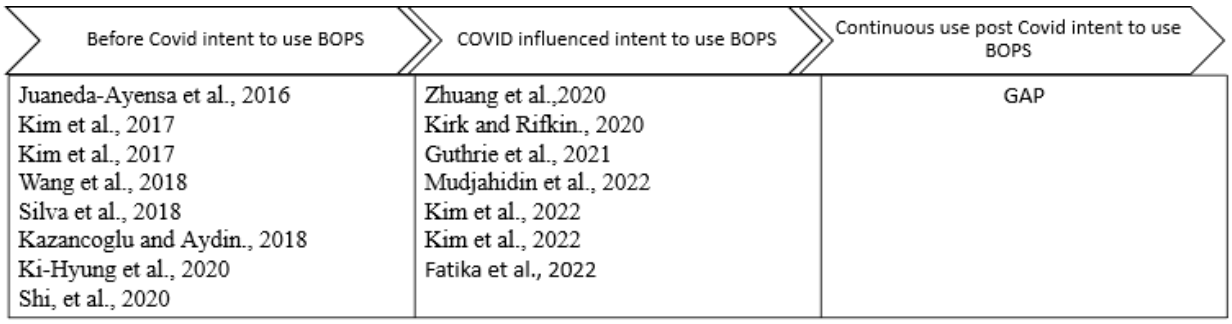
Omnichannel BOPS service can benefit retailers and consumers (Kim, 2017). In discussing the benefits of BOPS, Shaw (2020) suggested that BOPS appeals to the millennial market because it drives in-store purchases upon item retrieval, thereby increasing revenue. Additionally, BOPS decreases delivery costs and cart abandonment, enhances the customer experience, boosts customer satisfaction, and enables online consumers to retrieve their purchases conveniently. Gao and Su (2016) posit that Buy Online, Pick Up In-Store (BOPS) initiatives hold the potential to bolster both store foot traffic and sales figures. Notably,

consumers who engage with the BOPS model tend to engage in supplementary in-store purchases while retrieving their online orders. As a result, prominent retailers such as Macy's, The Home Depot, Apple, Crate & Barrel, Walmart, Amazon, Target, and Best Buy have strategically embraced this service as a means of augmenting their retail sales (Kim, 2017; Gao & Su, 2017).

Furthermore, the proliferation of retail establishments offering the BOPS option remains an ongoing trend. Gao and Su (2017) investigated the BOPS initiative's implications on retail store operations. They determined that the BOPS offering influences customer behavior in two significant ways: by furnishing real-time inventory availability information and mitigating the perceived inconvenience associated with traditional in-store purchases. Consequently, their findings underscore that BOPS represents a viable avenue for retailers to access previously untapped customer segments. However, the transition from online order fulfillment to in-store pickup may potentially erode profit margins for established customers should the latter method prove less cost-effective (Gao & Su, 2017).

Last, research by Shaw (2020) revealed that 77% of retailers agreed that BOPS has helped them reduce return volumes and save money on refund processing and restocking. In 2019, 51% of the 35-44 and 45% of the 25-34 age cohorts used click-and-collect services (Shaw, 2020). From the consumer’s perspective, BOPS enabled them to obtain the benefits of each channel while avoiding their inherent costs (Chatterjee, 2010; Kim, 2017). Increasingly, consumers have time-sensitive requests, which forces suppliers to keep pace. Compared to traditional purchasing methods, BOPS customers do not have to deal with shipping costs, lengthy delivery times, or returning items that do not suit or meet their expectations (Damen, 2022).

Figure 3 *Continued Intent to Use BOPS post-COVID (the gap)*



Summary and Conclusion

The literature review underscores the imperative nature of retail strategy adaptations in response to the transformative impact of the COVID-19 pandemic on consumer behaviors and preferences. Analysis of the existing study showed that the pandemic's influence catalyzed a remarkable surge in online purchasing and brought about significant shifts in consumer behavior within the retail landscape. Table 1 shows a *s*ummary of Key Omnichannel BOPS Studies-Use Intention Perspective. Notably, even though the limited research currently available, shown in Table 1, has investigated omnichannel BOPS from a variety of perspectives, there needs to be more research that focuses on the customer's perspective.

Additionally, utilizing the Diffusion of Innovation (DOI) theory to explore BOPS adoption has yielded mixed and conflicting results, particularly concerning the influence of the innovation attribute on adoption. However, this theory offers a valuable framework for understanding the intricate factors that mold customer intentions toward innovation adoption and sustained usage. As such, the DOI presents a plausible foundation for the theoretical framework of this study.

While numerous studies have examined consumer intentions to use BOPS before the pandemic, and additional research has explored BOPS usage influenced by the pandemic's effects, a significant gap exists in the context of post-system shock (pandemic) adoption studies

within the omnichannel retail arena (see Figure 3). The present study finds its place within this gap, employing the Diffusion of Innovation attributes to examine customer behavioral intentions toward BOPS in the aftermath of the COVID-19 pandemic. By examining the post-pandemic BOPS' continuous use, the study contributes new insights into the dynamic interplay between consumer behavior and the evolving retail landscape within the framework of omnichannel BOPS adoption.

Table 1 S*ummary of Key Omnichannel BOPS Studies-Use Intention Perspective*

Author	Methodology	Finding
Fatika et al., 2022	Quantitative Structural Equation Modeling (SEM)	BOPS usage intention influences convenience risk avoidance.
Juaneda-Ayensa et al., 2016.	Regression analysis Partial least squares (PLS) technique.	Innovativeness, perceived importance, effort expectancy, and performance expectancy impact omnichannel purchase intention.
Shi, S et al., 2020	A mixed method	Perceived compatibility and perceived risk further impact customers' shopping intentions.
Kim et al., 2017	Hierarchical multiple linear regression	Relative advantages, complexity, compatibility, and risks influence BOPS usage intention.
Kazancoglu & Aydin, 2018	Qualitative research Content analysis	Performance, effort, hedonic motivation, habit, and price value expectancies are crucial determinants of omnichannel shopping intention.
Mudjahidin et al., 2022	SEM	Coffee Shop Mobile (CSM) application enhances BOPS services by increasing user profit, customer convenience, and avoiding risks and convenience.

Author	Methodology	Finding
Ki-Hyung et al., 2020	Quantitative SEM Multiple regression	BOPS shopping behavior is influenced by influences performance expectancy, trust, compatibility, hedonic motivation, and social influence; price value and effort expectancy are not
Kim et al., 2022	Quantitative Bootstrap replications.	Performance expectancy, Effort expectancy, and Facilitating conditions mediate by affecting Usage intention.
Wang et al., 2018	SEM	Perceived advantage influences adoption intention, while compatibility, trialability, and complexity indirectly influence behavior intention.

Chapter 3: Methodology

As presented in Chapter 1, the problem studied in this research is that retail managers may not understand how the COVID-19 pandemic has affected customer behavior toward a retailer's omnichannel shopping offerings (Sheth, 2020; Taylor, 2022) and how this change impacts long- and short-term operations and business strategies. Katzenberg and Akturk (2021) found that between May 2020 and May 2021, 40% of Americans attempted a new shopping service, and almost three-quarters of those who tried BOPS, curbside pickup, or delivery plan continued using the services post-pandemic. This researcher uses the five attributes of the Diffusion of Innovation theory discussed in Chapter Two to evaluate changes in customers in Northwest Arkansas towards BOPS and, thereby, their intention to use BOPS post-COVID-19 pandemic. Thus, the researcher aims to determine if consumers in Northwest Arkansas intend to continue BOPS usage into a permanent post-pandemic.

Research Design

This study examined the relationship between Diffusion of Innovations attributes variables and customer behavioral intention to use BOPS. A non-experimental, quantitative correlational approach with a survey research design was utilized to assess the impact of the COVID-19 pandemic on the attitude and intent to use BOPS of Northwest Arkansas residents from January 2020 to May 2023. A non-experimental correlational design is a research design that facilitates data analysis when it is not feasible to manipulate the independent variable (Morgan & Renbarger, 2018). Thus, correlational design is most suitable for this study because little or no effort was made to control extraneous variables and to establish a relationship between the attributes of innovation diffusion and intent to use BOPS, such that a change in one will cause a change in the other (Chiang et al., 2015). Correlational research design enables

researchers to investigate the relationship between variables without manipulating them, making it suitable for this study. It provides insights into the strength and direction of relationships, allowing researchers to make predictions and recognize data patterns (Hair et al., 2019).

Furthermore, correlational research designs are adaptable and can be utilized in various research settings. A correlational study is advantageous due to the simplicity of its design, which assures the high quality of this research and avoids confusing data interpretation and misleading findings (Mertler, 2019). Kim et al. (2020) used a quantitative research design to investigate the influence of the antecedents of the BOPS service on customer BOPS selection and purchasing behavior. The design establishes a relation between the dependent variable and the independent variable.

The quantitative correlation design is an effective method for investigating the adoption of BOPS due to its capacity to establish relationships between variables and provide statistical evidence (Field, 2018). This research design enables a systematic investigation of the correlation between various factors and BOPS adoption, thereby providing valuable insights into the determinants of adoption and the relationships between variables. Researchers can collect numerical data on variables such as customer demographics, perceptions, behavior intention, and behaviors related to BOPS adoption, then use statistical techniques to determine the strength and direction of the relationship between variables.

In addition, a quantitative correlation research design permits the generalization of findings to a larger population. A well-conceived sampling strategy enables this researcher to collect data from a representative sample of BOPS customers, thereby enhancing the study's external validity. The sampling strategy enabled this researcher to conclude on the larger population of BOPS adopters and inform retailers' strategies to promote BOPS adoption.

Indicators of a better-quality correlational research design included sufficient sample size, the presentation of data in a table or graph, and the selection of the proper statistical test (Creswell & Creswell, 2018). Kim et al. (2020) used a quantitative correlation research design for BOPS adoption, examining factors influencing consumers' Intention to Use BOPS services through a survey-based methodology. The findings provided significant insights into the determinants of BOPS adoption and guided the creation of effective strategies to promote BOPS adoption. Thus, a quantitative correlation design was justifiable for examining BOPS adoption due to its capacity to establish relationships between variables, statistical data analysis, and the generalizability of findings. This research design has been effectively applied to investigate technology adoption, yielding valuable insights for retailers and policymakers in promoting BOPS adoption (Kim et al., 2022; Li et al., 2022; Kim et al., 2020). Therefore, a correlational design was most appropriate for this study since the researcher would assess changes in multiple variables: the attribute of the Diffusion of Innovations and intent to utilize omnichannel BOPS shopping.

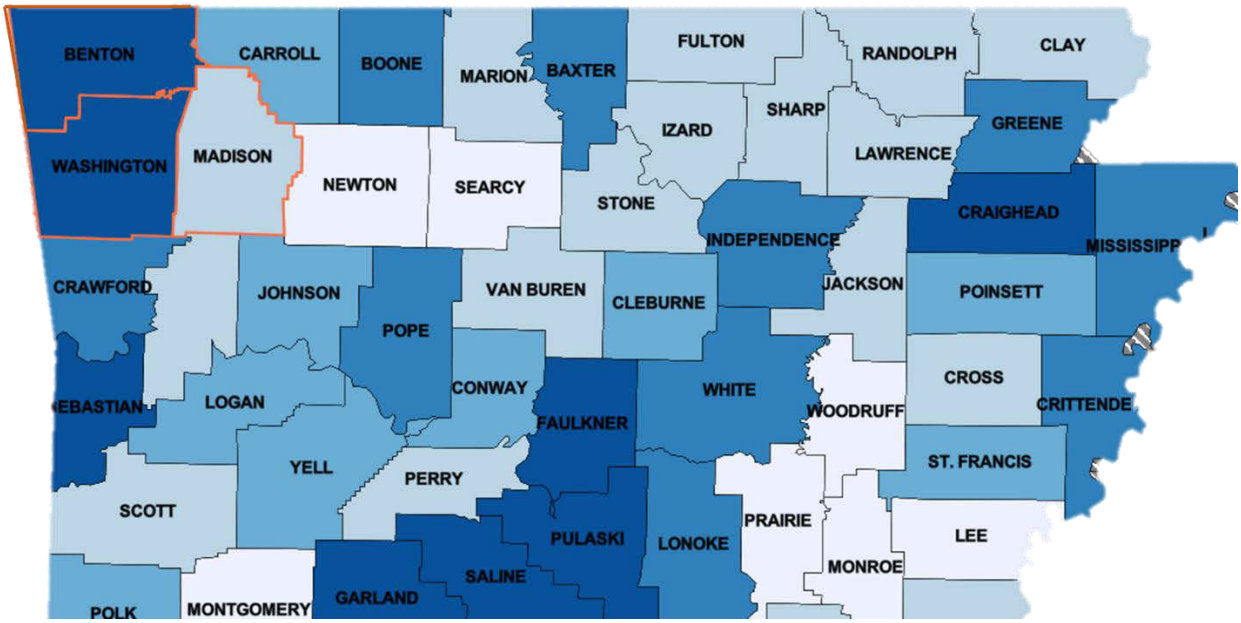
Utilizing a qualitative research approach to examine the correlation between DOI features and customer intention to adopt BOPS is inappropriate due to several factors. The use of a qualitative methodology is seen as suitable in instances when researchers want to investigate and gain insights into many aspects, such as the viewpoints of people, the dynamics of business leaders within their respective industries, and the personal encounters of individuals (Levitt et al., 2018 & Thanh Van, 2020). In addition, qualitative research entails examining and depicting social phenomena via the comprehension of real-life occurrences from the standpoint of individuals participating in the study (Tang et al., 2018). Furthermore, a comprehensive examination of BOPS adoption requires thoroughly comprehending overarching trends, which

may be more effectively explored through quantitative methodologies such as surveys or statistical analysis of variables. Using a quantitative technique facilitated this researcher in acquiring robust and generalizable insights into the correlation between the innovation variable and the customer's intention to use BOPS. This resulted in more dependable and evidence-based findings within customer BOPS use intention post-COVID-19 pandemic.

Description of Participants

According to Creswell and Creswell (2018), the target population is the group whose characteristics interest the researcher and to whom the research results are relevant. The proposed study focuses on the relationship between the Diffusion of Innovations attributes and customers in Northwest Arkansas omnichannel adoption influenced by the COVID-19 pandemic. Therefore, the population for this research consists of retail customers who have experience with retail services and reside in Northwest Arkansas. Located in the beautiful Ozark Mountains, Northwest Arkansas includes Benton, Washington, and Madison counties, with five central cities: Bentonville, Fayetteville, Rogers, Siloam Springs, and Springdale (NWA Council, 2023; see Figure 4). The research population included all individuals in northwest Arkansas who use retail outlets for shopping. Therefore, the target retail customers sample were 18 years and older with a source of household income from various backgrounds. The decision to select only adults over 18 to participate in the study was made because this age group is likelier to make independent shopping decisions. Additionally, these demographics may respond appropriately to the impact of the COVID-19 pandemic on their purchasing habits.

Figure 4. *Map of Northwest Arkansas (USCB)*



Note: The red and blue shaded area on the map represents Northwest Arkansas

This researcher collected sample data from respondents who lived in Northwest Arkansas to analyze the influence of the COVID-19 pandemic on customers' intended behavior toward omnichannel offerings such as buying online and picking up at the store. The geographic location, Northwest Arkansas, was selected because the researcher resides in the United States and wants to make the study result available to the businesses in the area. Additionally, Walmart, the world's largest retailer, operates multiple store outlets in the region, and these outlets offered BOPS after COVID-19. Also, many major US retailers have retail outlets in Northwest Arkansas, offering BOPS after the COVID-19 pandemic (Tobin, 2023 & HFA, 2020).

Sampling Design

The study employs a convenience sampling (non-probability) strategy by implementing a survey-based questionnaire (Ali et al., 2019). Convenience sampling is occasionally utilized in research due to its practicability and ease of participant recruitment (Creswell & Creswell, 2018). The sampling technique entails selecting participants based on their availability or accessibility

to the researcher. Northwest Arkansas residents were recruited through the Centament Research network. Convenience sampling may not guarantee the representativeness of the larger Northwest Arkansas population, but it can be helpful in exploratory or where the objective is to gain insights (Etikan et al., 2016). It is also appropriate because the intended audience is challenging to reach or when time and resources are limited. (Creswell, 2018). This sampling strategy has been frequently employed in primary data collection and has proven cost-effective (Zikmund, 2003). Therefore, this researcher used convenience sampling to target retail customers 18 years and older with a source of household income for the study.

Sample Size

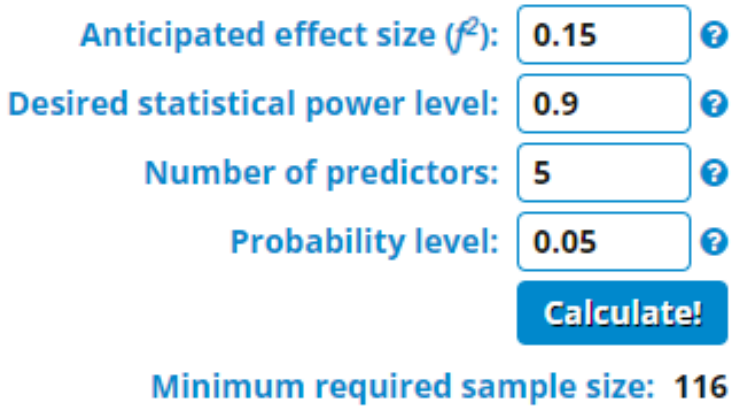
The research sample size is critical for generalization from a random sample, and avoiding sampling error or biases requires an adequate size in random sampling (Taherdoost, 2017). According to the 2022 census data, Northwest Arkansas encompasses Benton, Washington, and Madison counties, home to five prominent urban centers: Bentonville, Fayetteville, Rogers, Siloam Springs, and Springdale (NWA Council, 2023) (see Figure 4). The county has a total population of 702,003, with equal distribution of males and females (NWA Council, 2023). According to the United States Census Bureau (USCB) statistics, about 29.28% of the population of Northwest Arkansas is below 18, and 17.53 percent above 65. Upon applying the selection criteria filters, the target group for the study had a population of 415,354, from which samples were drawn for the study.

Calculating sample size and considering statistical power is essential in correlation research as it helps ensure that the study is adequately powered to detect meaningful relationships between variables (Hazra & Gogtay, 2016; Kennedy, 2015). A priori power analysis is essential in correlation research because it allows researchers to determine the sample size

required to obtain sufficient statistical power to detect meaningful relationships between variables (Fugard & Potts, 2015; Lakens & Caldwell, 2021). A priori power analysis involves estimating the required sample size based on factors such as the desired effect size, alpha level, statistical power, and expected correlation strength (Cohen, 1988; Lakens & Caldwell, 2021). This analysis provided this researcher with a sufficient sample size to detect correlations with reasonable accuracy and reduce the likelihood of Type II errors (Field, 2013; Lakens. 2022). It helps to ensure that the study is adequately powered, which increases the likelihood of discovering significant correlations and yields more reliable and valid results. Therefore, employing a priori power analysis in correlation research increases the rigor and reliability of the study findings (Faul et al., 2007; Lakens, 2022).

An a priori power analysis, using a multiple linear regressions F-test with five predictors, a power of 0.9, and a medium effect size ($f^2 = .15, \alpha = .05$) indicates a minimum sample size of 116 participants is required for the study (see Figure 5). The sample sizes represent the total responses received but not necessarily the number of questionnaires administered (Taherdoost, 2017). However, in most social and management surveys, electronic survey response rates are exceptionally seldom 100 percent (Taherdoost, 2016; Taherdoost, 2017). To guarantee minimum sample sizes are satisfied, the sample size for the initial distribution of the survey was expanded by 50 percent to compensate for non-response (Bartlett et al., 2001). Therefore, 190 responses were collected for the study, ensuring the study was adequately powered.

Figure 5 *Sample Size Analysis*



Data Collection Methods

The present research determined the relationship between the DOI attribute and the intention of consumers in Northwest Arkansas to use BOPS after the COVID-19 pandemic. The attributes of innovation diffusion were operationalized as the independent variable, and a questionnaire from the study by Kapoor et al. (2013) was utilized to collect data about the study variables. The study uses a self-administered survey using Centiment Research's online platform for participants to complete the survey independently. This method allowed participants to independently complete the survey at their discretion, making it a flexible and convenient method for collecting data (Dillman et al., 2019).

One of the benefits of self-administered surveys is the potential for higher response rates compared to other data acquisition techniques. The ability to choose when and where to complete the survey can increase participants' willingness to participate (Babbie, 2016). In addition, self-administered surveys provide participants with a sense of privacy and anonymity, encouraging them to provide truthful responses (Babbie, 2016). Standardization of data collection is another

benefit of self-administered surveys. The survey questions were adopted from Al-Jabri and Sohail's (2012) and Kapoor's (2013) research on Mobile banking adoption and adapted for omnichannel design in a consistent and structured manner, ensuring that all respondents receive the same questions and response options (Dillman et al., 2019). Consequently, the collected data was more reliable and comparable.

Data Collection Limitations

However, there are limitations to self-administered surveys. One area for improvement is the possibility of low response rates, as some respondents may skip the survey (Babbie, 2016). To encourage participation, this researcher developed explicit instructions, reminders, and incentives for Centiment research participants (Dillman et al., 2019). Moreover, self-administered surveys rely on respondents' ability to correctly comprehend and interpret the questions. Therefore, the survey utilizes plain and concise language, avoids jargon and technical terms, and provides adequate instructions (Babbie, 2016).

Additionally, convenience sampling does not adhere to probability principles. It has the potential to result in an inadequate representation of particular demographic groups, like women, males, or individuals from diverse racial and ethnic backgrounds, inside research investigations. Research has shown that convenience sampling tends to exhibit a bias towards persons who are conveniently accessible or readily available, perhaps resulting in the unintended exclusion of individuals belonging to disadvantaged or underrepresented populations (Johnson, 2018; Smith et al., 2020). For example, some demographic groups, such as women and minority populations, may encounter restricted opportunities to engage in the study or exhibit lower participation rates influenced by various social and cultural variables (Lee, 2019). The restricted representation in

this study may undermine the generalizability of the research results since the sample may not correctly represent the wider population, resulting in biased conclusions (Williams, 2021).

Data Collection

A survey design with a structured online questionnaire was used to collect data from research participants selected using convenient sampling from Northwest Arkansas. This researcher designed the survey on the Centiment Research survey platform. The following processes were used to collect data from online participants in April and May 2023. The Centiment Research platform provided a suitable medium for developing and disseminating research surveys. This researcher hosted the survey instrument on the Centiment Research platform, and Centiment Research served as the recruitment tool for the proposed research. Centiment Research filtered responders from their panels, and individuals that met preset criteria received an invitation with two pieces of information: the expected time to complete the survey and the expected reward. A uniform resource locator (URL) was made available to the survey participants, and upon clicking, the respondents were directed to the platform hosting the survey.

The respondent first reviewed the informed consent document, as detailed in Appendix A. Subsequently, upon agreeing to the terms outlined in the informed consent, they were presented with a series of qualifying questions. Specifically, respondents were asked whether they had utilized the "Buy online and pick up at the store" option during the period spanning from March 2020 to December 2022, to which they could respond with a simple "Yes" or "No." If a participant responded with "No," an automated rule was activated, leading to the immediate conclusion of their participation in the survey. At that point, the survey was closed for that individual. Conversely, participants who answered "Yes" to the qualifying question were considered eligible and subsequently granted access to the consent letter. Importantly, it is crucial

to note that respondents were not obligated to disclose any personally identifiable information (PII) during this process.

To safeguard the anonymity of respondents, Centiment employed a unique tagging system. This system assigned a distinct custom variable to each respondent upon their entry into the survey, thus facilitating the prevention of duplicate entries. It is worth emphasizing that Centiment does not retain project-related data once the results have been delivered.

Measurements and Instruments

This researcher used the theoretical framework developed to investigate the influence of innovation diffusion attributes on attitude and customer intent to use omnichannel. The framework is used to understand the relationship between attribute and intent to use BOPS. This researcher first operationalized the research variable and then developed an instrument for collecting the data.

Operationalization of Variables

The research used regression analysis to examine the correlation between aspects of DOI (Diffusion of Innovations) and customers' Intention to Use BOPS within the framework of omnichannel shopping. This researcher operationalized the variables using DOI attributes as the independent variable, and BOPS used intention as the dependent variable. The DOI attributes represent various characteristics of the innovation being examined, including relative advantage, compatibility, complexity, trialability, and observability (Rogers, 2003). These traits were quantified and measured using established scales and questions adapted from Kapoor et al. (2013) to assess respondents' attitudes toward the intention to use BOPS.

Similarly, the dependent variable intent to use BOPS was measured with a dependable scale that captured participants' behavioral intentions and willingness to adopt BOPS shopping

(Kapoor et al., 2013; Kim, 2017). Indicative of their propensity to leverage the innovations, the participants' responses to these questions provided valuable information regarding their intention to use omnichannel BOPS shopping. This researcher used a survey instrument, an altered questionnaire, which was derived from the work of Kapoor et al. in 2013. The survey used a 10-point Likert scale, from 1 (not at all) to 10 (certainly at all times), to evaluate participants' reactions and perspectives about Omnichannel BOPS shopping.

Instruments

The data collection instrument was a structured questionnaire since questionnaires were adaptable for acquiring information from a large or small number of individuals on practically any issue (Moore, 1987; Olatokun & Igbinedion, 2009). Moore and Benbasat (1991) devised an instrument for evaluating an individual's perceptions regarding implementing novel information technology innovations. As Rogers (2003) asserted that, the items comprising Moore and Benbasat's scale are suitable for evaluating any specific innovation embraced by a group of people. This instrument's adaptability is exemplified by its utilization in investigations exploring the adoption of computer-based university course delivery and computer-assisted counseling innovations. Moreover, Kapoor et al. (2013) employed an adapted variant of the Moore and Benbasat instrument to ascertain innovation's perceived attributes, behavioral intent, and actual adoption among potential consumers concerning interbank mobile payment services.

Consequently, the preexisting instrument from Kapoor et al. (2013) research on Mobile Banking adoption was adapted for this research. This researcher actively pursued and successfully obtained express permission from the copyright holder, Springer Nature, to modify and use the survey instrument that was first created by Kapoor (2012). The authorization ensured

that the instrument's adaptation and utilization were carried out in adherence to copyright restrictions, ensuring the ethical and legal conformity of the research undertaking.

The questionnaire was broken down into seven components. Section one includes closed-ended questions on the respondent's demographic attributes. Sections two through six gather a 10-point Likert scale to gather information on the attributes of innovations diffusion (relative advantage, complexity, compatibility, observability, and trialability) on intention to use BOPS. Finally, section seven uses a 10-point Likert scale to gather information on customer intentions to use BOPS.

In the research instrument used for data collection, specifically sections 2 through 5 and 7, the instrument included four items from Kapoor et al.'s (2013) instrument shown in Table 2 in each section, all demonstrating acceptable reliability levels as indicated by Cronbach's alpha. Cronbach's alpha is a measure of internal consistency; in this context, it indicates the reliability and consistency of responses across items within each section. The high Cronbach's alpha values acquired for these sections indicate that the items collectively assess a consistent construct or dimension, thereby enhancing the robustness of the instrument in capturing the targeted variables.

However, Cronbach's alpha value exhibited a low level initially after modifying Kapoor et al.'s (2013) instrument for section six of the instrument. One item from section six was excluded in response to the need to enhance the instrument's dependability. Following this, the instrument was reassessed after removing the specific item, which led to a substantial increase in dependability, ultimately achieving satisfactory levels. Consequently, three items were selected and included in section six, enhancing the assessment's reliability and internal consistency for the targeted research variables.

Table 2: *Original Constructs-Questions Mapping and Sources*

Parameter	Number of Question	Sources
Relative Advantage Survey	4	Kapoor et al., 2013; Moore and Benbasat (1991)
Complexity Survey	4	Kapoor et al., 2013; Moore and Benbasat (1991); Shih and Fang (2004); Yang et al. (2006); Richardson (2009)
Compatibility	4	Kapoor et al., 2013; Moore and Benbasat (1991)
Trialability	4	Kapoor et al., 2013; Moore and Benbasat (1991)
Observability	3	Kapoor et al., 2013; Meuter et al. (2005); Richardson (2009)
Behavioral Intention	4	Kapoor et al., 2013; Karahanna et al. (1999); Teo and Pok (2003); Shih and Fang (2004)

The questions are designed on a 10-point Likert scale. Previous studies used Likert scale questionnaires to investigate online and offline purchases (Al-Bakri & Katsioloudes, 2015; Prakash & Sharma, 2016; Hansen, 2021). The use of a 10-point Likert scale enhances the robustness of the data collection and analysis. Thus, the use of the 10-point Likert scale is attributed to the following:

- A 10-point scale allowed more accurate participant responses and data analysis (Adelson & McCoach, 2010).

- A 10-point Likert scale allows for more significant response differentiation than scales with fewer options. This enables participants to convey responses on the DOI attributes that are more nuanced and specific (Jamieson, 2004).
- A 10-point Likert scale has a higher level of discriminant validity because it allows for a more distinct separation between levels of agreement or disagreement. This can facilitate the analysis of relationships between the attributes of DOI and the detection of subtle differences (Adelson & McCoach, 2010).
- The increased variability afforded by a 10-point Likert scale can result in enhanced statistical power, enabling more precise and reliable data analysis (Bishop & Herron, 2015; Taherdoost, 2019).
- By minimizing response biases and measurement errors associated with scales with limited response options, a 10-point Likert scale can improve the reliability of measurements (Taherdoost, 2019).
- With more response options, a 10-point Likert scale can encompass a broader spectrum of opinions and behavioral intention, increasing content validity (Taherdoost, 2019).
- A 10-point Likert scale can increase participant engagement by providing a wider variety of response options, allowing respondents to articulate their opinions more precisely and reflectively (Taherdoost, 2019).

Leech et al. (2005) noted that a reliability assessment is required to ensure that the adapted version of the survey maintains its consistency and stability in the new context. Adapting the instrument to meet the specific needs and objectives of the current study could introduce variations that could compromise its reliability as applied to a different population or

context (DeVellis, 2017). While the validity of the original instrument by Kapoor et al. (2013) was established in prior research, the current adaptation may necessitate examining the content validity of any added or modified items to ensure that they align with the focus of the study (Carmines & Zeller, 2018). By reassessing the reliability of the modified instrument, researchers can confidently measure the internal consistency and precision of the data collected in this study (Carmines & Zeller, 2018), thereby enhancing the credibility of the research findings.

Cronbach's coefficient alpha was used to evaluate multi-item scales' internal consistency and reliability. Cronbach's alpha was utilized in this investigation because each item measured an underlying construct (Leech et al., 2005). The results in Table 3 display that Cronbach's alpha coefficients for all instruments in the study ranged from 0.67 to 0.82, indicating satisfactory reliability. These high values indicate the internal consistency and stability of the survey measures, indicating that the items within each instrument are highly correlated and effectively measure the intended constructs.

Table 3: Cronbach's alpha *Reliability Test of the instrument*

Constructs	Number of Items	Cronbach's Alpha (α)	Reliability
Behavioral Intention	4	0.98	High
Trialability	4	0.81	High
Relative Advantage	4	0.87	High
Compatibility	4	0.88	High
Complexity	4	0.70	Moderate
Observability	3	0.68	Moderate

Data Security

Survey respondents were not obligated to disclose personally identifiable information (PII). Centiment employed a distinctive tagging system to safeguard respondent anonymity, assigning a personalized variable to each survey participant upon entry. This approach additionally prevented data duplication. After the dissemination of survey results, Centiment ceased the retention of any data. Centiment adopted TLS (Transport et al.), colloquially known as SSL or HTTPS, to secure and encrypt all transmitted data for data protection. Consequently, respondents did not encounter insecure HTTP links during the meticulously configured data collection process.

Furthermore, to maintain comprehensive data control, all data from the survey were extracted into a password-protected, secured Excel spreadsheet. Access to this data was limited to the researcher and committee members. To further preserve the confidentiality of the study data, random numbers were used to identify participants instead of their names. This approach serves as an additional layer of security, with access to these numerical codes being strictly limited, thus upholding the data's integrity and privacy.

Ethical Considerations (or Human Participant Considerations)

Babbie (2016) underscores the pivotal criteria in social research, emphasizing the imperative assurance of voluntary and private participation and preventing potential harm to the participants. To safeguard the anonymity and privacy of the respondents, the researcher clearly communicated within the consent letter that participation is entirely voluntary. Furthermore, it was explicitly clarified that the data collected through the research instrument would be exclusively utilized for this doctoral dissertation. Notably, access to this data would be restricted solely to the researcher and the dissertation committee, ensuring the utmost confidentiality.

Creswell (2014) proposed that an institutional review board (IRB) must evaluate scholars' research proposals. As a result, the research was presented to the IRB of Franklin University to examine potential physical, psychological, social, economic, and legal hazards to research participants. This researcher applied for IRB review and was granted an exemption due to the survey collecting non-personal information, and the research subjects were adults of 18+ years. All IRB guidelines were followed, and documentation was received from Franklin University's IRB granting permission to proceed (see Appendix C)

Data Analysis Procedures

This quantitative study examines the relationship between DOI attributes and consumers' intent to adopt omnichannel BOPS shopping influenced by the COVID-19 pandemic. The relationship between the independent variables (i.e., relative advantage, complexity, compatibility, observability, and trialability) and the dependent variable (i.e., consumers' intent to implement BOPS purchasing) is investigated through the following research questions:

RQ1: What is the relationship between the relative advantage of omnichannel use during the COVID-19 pandemic and customers' intention to use BOPS?

H_0: A statistically significant relationship does not exist between the relative advantage of using omnichannel during the COVID-19 pandemic and customer intention to use BOPS.

H_1: A statistically significant relationship exists between the relative advantage of using omnichannel during the COVID-19 pandemic and customer intention to use BOPS.

RQ2: What is the relationship between the complexity of omnichannel use during the COVID-19 pandemic and customers' behavior intention toward BOPS?

$H2_0$: A statistically significant relationship does not exist between the complexity experienced from the use of omnichannel during the COVID-19 pandemic and customer intention to use BOPS.

$H2_1$: A statistically significant relationship exists between the complexity experienced from the use of omnichannel during the COVID-19 pandemic and customer intention to use BOPS.

RQ3: What is the relationship between customer compatibility from omnichannel use during the COVID-19 pandemic and customers' behavior intention toward BOPS?

$H3_0$: A statistically significant relationship does not exist between the compatibility of omnichannel during the COVID-19 pandemic and customer intention to use BOPS.

$H3_1$: A statistically significant relationship exists between the compatibility of omnichannel during the COVID-19 pandemic and customer intention to use BOPS.

RQ4: What is the relationship between trialability from omnichannel use during the COVID-19 pandemic and customer intention to use BOPS?

$H4_0$: A statistically significant relationship does not exist between the trialability of omnichannel during the COVID-19 pandemic and customer intention to use BOPS.

$H4_1$: A statistically significant relationship exists between the trialability of omnichannel during the COVID-19 pandemic and customer intention to use BOPS.

RQ5: What is the relationship between customer observability of omnichannel use during the COVID-19 pandemic and customers' intention to use BOPS?

$H5_0$: A statistically significant relationship does not exist between the observability of omnichannel during the COVID-19 pandemic and customer intention to use BOPS.

$H5_1$: A statistically significant relationship exists between the observability of omnichannel during the COVID-19 pandemic and customer attitude towards retail BOPS.

RQ6: What is the relationship between the combined Diffusion of Innovation attributes influenced by the COVID-19 pandemic and customer behavioral Intention to Use BOPS offerings?

$H6_0$: A statistically significant relationship does not exist between the combined Diffusion of Innovation attributes influenced by the COVID-19 pandemic and customer behavioral intention to use BOPS.

$H6_1$: A statistically significant relationship exists between the combined Diffusion of Innovation attributes influenced by the COVID-19 pandemic and customer behavioral intention to use BOPS.

This researcher used SPSS to analyze the data and test the hypotheses in response to the research questions. Correlations and multiple regression analysis, which permits the simultaneous examination of the relationships between multiple independent variables and a dependent variable, were used to analyze the study data. In prior investigations, researchers have measured the relationship between variables using various analytical techniques, including partial least squares Structural Equation Modeling or SEM (Fatika et al., 2022; Xu & Jackson, 2019; Silva et al., 2018; Mudjahidin et al., 2022; Ki-Hyung et al., 2020), and multiple regression analysis (Kim et al., 2017; Olatokun & Igbinedion, 2009).

Multiple regression analysis is suitable when dealing with two or more independent variables, and the primary research objective was to forecast the association between these independent variables and the dependent variable (Bryman, 2016). Partial least squares, conversely, are unsuitable for modeling latent variables and assessing theoretical parameters

(Dijkstra & Henseler, 2015). Consequently, this study refrained from utilizing partial least squares as an analytical method. Pearson's correlation, on the other hand, is well-suited for gauging the strength of a linear relationship between two variables (Bryman, 2016). In this investigation, the researcher assessed the degree of linear association between independent variables and a single dependent variable, thereby opting for Pearson's correlation. Consequently, correlation analysis was employed to evaluate the association between individual DOI attributes and behavioral intention. In contrast, a multiple regression analysis was conducted to assess the cumulative impact of these attributes.

The researcher then determined the relationship between the five characteristics of the Diffusion of Innovation theory and behavioral intent. Multiple regression analysis was appropriate for this study's analysis because the objective was to investigate the linear relationship between multiple independent variables and one dependent variable (Creswell, 2009). Regression tests aid in determining the relationship between innovation diffusion attributes and customer behavior toward omnichannel and between customer attitude and intent to use omnichannel. Olatokun and Igbinedion (2009) and Al-Jabari and Sohail (2022) also employed regression models to investigate the impact of innovation diffusion attributes on the attitude and adoption of innovations. Regression analysis assists in comprehending how a dependent variable changes when an independent variable (intent to use) is altered while all other independent variables remain unchanged (Swanson & Holton, 2005).

This researcher first computed descriptive statistics to summarize the sample's characteristics. These statistics included central tendency measures (e.g., mean, median) and dispersion measures (e.g., standard deviation, range). The normality assumption was evaluated

using skewness and kurtosis values, which indicated that the data followed a normal distribution approximately (Field, 2018).

Next, a linear regression analysis was performed to examine the relationship between each independent variable (i.e., relative advantage, complexity, compatibility, observability, and trialability) and the dependent variable (i.e., intention to use BOPS). Before executing the multiple regression, the validity of assumptions such as linearity, independence of errors, homoscedasticity, and absence of multicollinearity was assessed (Hair et al., 2019; Creswell, 2009). Assumptions such as linearity, independence of errors, absence of multicollinearity, and absence of influential outliers were evaluated before running the regression to ensure the validity of the results (Hair et al., 2019). This researcher then tested hypotheses using the multiple regression coefficients and their corresponding p-values to determine whether a significant relation exists between the dependent and the independent variables.

Data Processing

Ensuring certainty during data analysis includes comprehensive, accurate, correct, and pertinent records within a dataset, underscoring the significance of meticulous data cleansing procedures (Ridzuan & Zainon, 2019). Data cleansing is rectifying inaccuracies, resolving inconsistencies, and uniform standardization of data, thereby facilitating precise data acquisition (Snyder, 2019). The execution of data processing involved the utilization of Microsoft Excel for Microsoft 365 and IBM SPSS Statistics 28. A comprehensive visual scrutiny of the dataset conducted within the confines of Excel revealed an absence of incomplete responses necessitating omission from the subsequent analysis. After this scrutiny, the dataset was transferred from Excel to SPSS and labeled.

Limitations

The limitations of the non-experimental research methodology and the nature of the non-experimental quantitative correlation study limited the capacity to generalize and draw causal conclusions from the study results (Koksal, 2013). This research does not contain a truly random sample of all inhabitants of Northwest Arkansas in the United States. It was confined to the data acquired by the Centiment survey. A significant population constraint is that all respondents were acquainted with technology since the Centiment network of participants were adept users of Internet-related technology. As a result, the data gathered is biased toward people more open to learning and adopting new technologies. Future studies might replicate these findings with a broader sample of people unfamiliar with the technology.

Conclusion

Conclusively, this researcher examined the relationship between the variables of Diffusion of Innovations attributes on customer attitude and attitude on the intent to use buy-Online-Pickup-at-the-Store. A non-experimental quantitative correlational approach with a survey research design was utilized to assess the influence of the COVID-19 pandemic on consumer attitude and intent to use buy-Online-Pickup-at-the-Store of Northwest Arkansas residents during the COVID-19 pandemic. The following Chapters of this research evaluate the results from the data analysis using the research design and methodology discussed.

Chapter 4: Data Collection and Analysis

This research focuses on the influence of the COVID-19 pandemic on post-pandemic customer behavior regarding omnichannel shopping, specifically the "buy online, pick up in-store" (BOPS) model. The pandemic accelerated the adoption of BOPS due to its convenience and safety. However, whether customers will continue using BOPS after the pandemic subsides is still being determined. Retail managers do not understand the influence of the COVID-19 pandemic on customer behavior, leading to developing strategies that may not align with customer needs and result in poor performance.

Consequently, there needs to be a greater understanding of BOPS adoption determinants and the pandemic's influence on consumer behavior in this context. To address this gap, the study used the Diffusion of Innovations theory to investigate how the pandemic has impacted customer behavior toward BOPS and its post-pandemic adoption (Rogers, 2003; Aljabri & Sohail, 2012). Thus, an online survey was employed to collect data from individuals in Northwest Arkansas who used BOPS services during the pandemic, and the findings provided valuable insights for retailers to develop practical operational and marketing approaches for promoting omnichannel adoption.

Data Collection

This researcher employed a non-experimental, quantitative correlational survey design to assess the pandemic's influence on consumer attitudes and intent toward utilizing Buy Online, Pick Up In-Store (BOPS) services. Within this framework, this methodology allowed for examining relationships between variables without manipulation, offering insights into the strength and direction of these relationships (Hair et al., 2019). In line with this perspective, the

study investigated the connection between innovation diffusion characteristics and customers' behavioral intent regarding BOPS utilization (Chiang et al., 2015).

The study focused on Northwest Arkansas-based retail consumers with prior experience with Omnichannel services during the 2020 COVID-19 pandemic. Collecting data from 190 participants using a self-administered online survey hosted on the Centiment Research platform, the survey incorporated questions adapted from Kapoor et al.'s (2013) work. This approach aimed at quantifying innovation diffusion attributes and customer intentions regarding BOPS usage. Further grounded in Moore and Benbasat's (1991) scale and refined by Kapoor et al. (2013), this survey instrument was structured and adaptable for data collection from diverse individuals. It encompassed demographic inquiries, Likert scale assessments of innovation diffusion attributes' impact on BOPS utilization intent, and direct queries about customer intentions to use BOPS.

To enhance reliability, four items from Kapoor et al.'s (2013) research were included in various sections of the questionnaire, demonstrating robust Cronbach's alpha values. Despite the initial lower reliability exhibited in section six, this was improved by omitting a single item, effectively enhancing the instrument's dependability. Consequently, the collected data was subsequently subjected to analysis using SPSS software.

Description of the Sample

The analysis for the study used data from responses from 190 participants who completed a survey. This sample size satisfies the minimum requirement for linear regression determined by the A priori power analysis, which determined that a minimum of 116 participants were required for the study, given a power of 0.90, a significance level of 0.05, and a medium effect size ($f^2 = .15$, $\alpha = .05$) with five predictor variables: relative advantage, compatibility, complexity,

trialability, and observability. All 190 responses acquired for analysis met the predetermined criteria for the study.

Participant Inclusion Criteria

The inclusion criteria for participants in the survey included two primary screening questions. The first criterion concerned the age of the participants, mandating that all respondents be at least 18 years old. The second screening question centered on using BOPS during the COVID-19 pandemic, making it essential for participants to have used BOPS in that context to satisfy the study's eligibility requirements. This criterion ensured that the collected data were pertinent to the impact of BOPS usage in the pandemic context. In addition, an additional query is included to determine participant BOPS usage prior to the COVID-19 pandemic. While this question is not used for screening, it provides valuable context for understanding the evolution of participants' engagement with BOPS both pre- and post-pandemic, enriching the research findings and enhancing the comprehensiveness of the overall study.

Participant Demographic Variables

As shown in Table 4, most respondents were female (63.2%) versus male (36.3%), and one respondent was binary (0.5%), which corresponds with the data from the US Census in 2021, indicating that 50.06% of Northwest Arkansas residents are female and 49.94% are male (USCB, 2021). Concerning age composition, as shown in Table 5, most respondents were between 30 and 39 years of age (25.9%), followed by those between the ages of 40 and 49 (23.3%), those between the ages of 50-59 (18.5%), and those between 18 and 19 being the smallest groups (1.6%).

Table 4: *General Demographic Information of Survey Respondents (N = 190)*

	Frequency	Percent
0 = Male	69	36.3
1 = Female	120	63.2
2 = Non-binary	1	.5

Table 5: *Descriptive Statistics of Participant Age*

	Frequency	Percent
1 = 18-19	3	1.6
2 = 20-29	32	16.8
3 = 30-39	49	25.8
4 = 40-49	44	23.2
5 = 50-59	36	18.9
6 = 60+	26	13.7
Total	190	100.0

The demographic data on BOPS usage show that 63% of the respondents did not regularly use BOPS before the COVID-19 pandemic. Only 37% of the respondents had adopted BOPS and regularly used BOPS for their shopping before the pandemic. However, all respondents used BOPS to shop during the COVID-19 pandemic (see Table 6).

Table 6. *Respondent BOPS Usage Before the COVID-19 Pandemic*

	Frequency	Percent
0 = No	120	63.2
1 = Yes	70	36.8
Total	190	100.0

The descriptive analysis of the study instrument was constructed using the innovation division's attributes of relative advantage (RA), compatibility (CP), complexity (CT), trialability (TT), and observability (OO), and the dependent variable behavioral intention (BI) including mean score and standard deviation (see Table 7). Relative advantage, compatibility, complexity, and trialability scale factors had four-item statements, while observability scale factors had three. Each scale factor employed a 10-point Likert scale extending from 1 = "Not at all" to 10 = "Absolutely or Always." The category with the highest mean score was trialability (M = 8.4921). The category with the lowest mean score was observability (M = 6.56). In addition, the average scores for relative advantage, complexity, compatibility, and behavioral intention were 8.13, 7.26, 8.16, and 8.23, respectively. Thus, the means of all variables were greater than 6.9, indicating that most respondents answered "Definitely or Always" to the survey questions, and the standard deviation ranged from 1.21 to 2.35, indicating that the data is evenly distributed around the mean.

Table 7. *Descriptive Statistics for Scale Items Measuring Constructs*

	RA	CP	TT	CT	OO	BI
Mean	8.13	7.26	8.49	8.16	6.94	8.23
Std. Deviation	1.86	1.21	1.48	1.93	1.15	2.35

Data Analysis Procedures

The relationship between customer behavioral intention toward BOPS and potential predictors was investigated using correlation and multiple regression analyses. This researcher used Pearson correlation and standard multiple linear regression to examine BOPS adoption. Relative advantage, compatibility, complexity, trialability, and observability were the independent variables, while behavioral intention was the dependent variable.

Validity and Reliability Test

The multiple-item scales were evaluated for internal consistency and reliability using Cronbach's coefficient alpha. This investigation utilized Cronbach's alpha because each item measured an underlying construct (Leech et al., 2005). The established standard for Cronbach's alpha is a reliability index of at least 0.7 (Rostami et al., 2018). However, values above 0.6 are also acceptable (Griethuijsen et al., 2015; Taber, 2018). As shown in Table 8, the behavioral intention (BI) variable consists of four items and has the maximum level of scale reliability, as measured by Cronbach's alpha reliability coefficient of 0.98. Compatibility has four items and a Cronbach's alpha reliability coefficient of 0.88, followed by the relative advantage variable (4 items; $\alpha = .87$) and the trialability variable (4 items; $\alpha = .81$) regarding scale reliability. Complexity (4 items; $\alpha = .67$) and observability (3 items; $\alpha = .68$) exhibited adequate Cronbach's alpha reliability coefficient ratings and levels of reliability.

Initial Cronbach's alpha for the observability scale indicated a low alpha value of .09. However, based on the item analysis, this researcher determined that the first item had the lowest correlation with the total scale score and that its removal considerably improved Cronbach's alpha. Following the examples of Jayasingh et al. (2022) and Olatokun and Igbinedion (2009), the item was eliminated, resulting in a more acceptable increase in Cronbach's alpha from 0.09

to 0.68. Consequently, eliminating these items improved the results of subsequent analysis (Leech et al., 2005). Nonetheless, Cronbach's alpha for the combined instruments revealed a 0.98 reliability, indicating the instruments' high internal consistency.

Table 8. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
ALL	.98	23
RA	.87	4
CP	.70	4
CT	.88	4
O	.68	3
TR	.81	4
BI	.98	4

Tests of Assumptions

To ensure the validity and reliability of their findings, quantitative researchers must assess certain assumptions when using multiple regression analyses. These assumptions include the presence of multicollinearity, linearity, normality, and homoscedasticity of residuals, as outlined by Holbrook et al. (2016) and (Meuleman et al., 2015). If the assumptions are not met, there is a possibility of obtaining findings that are skewed (Jeong & Jung, 2016; Thanh Van, 2020). Statistical software is a prevalent methodology employed to examine assumptions pertaining to multiple regression (Bermudez-Edo et al., 2018; Khode et al., 2017). Thus, this researcher assessed the hypotheses of multicollinearity, normality, linearity, homoscedasticity, and residual independence.

Multicollinearity.

In this study, Pearson's product-moment correlation coefficient and the variance inflation factor (VIF) were employed via SPSS to evaluate the presence of multicollinearity among the independent variables. Multicollinearity is a situation where two predictor variables exhibit a high correlation coefficient ($r > .8$) and possess a VIF value exceeding 10, as established by Bermudez-Edo et al. (2018) and Green and Salkind (2017). Examination of the intercorrelation results for the variables under consideration within the regression analysis, as delineated in Table 9, reveals that the predictor variables - namely, relative advantage, complexity, and observability - exhibit correlation coefficients of less than seven, thus signifying a low degree of intercorrelation.

Table 9. *Pearson Correlations of Variables*

		RA	CP	CT	TT	OO	BI
RA	Pearson Correlation						
CP	Pearson Correlation	.442**	1				
CT	Pearson Correlation	.658**	.538**	1			
TT	Pearson Correlation	.586**	.574**	.722**	1		
OO	Pearson Correlation	.285**	.101	.264**	.288**	1	
BI	Pearson Correlation	.635**	.433**	.759**	.591**	.358**	1

Note. ** Correlation is significant at the 0.01 level (2-tailed).

In contrast, compatibility has a substantial positive correlation with trialability, measured by a correlation coefficient 0.72. Likewise, the VIF value for each predictor in the regression

model was less than 3. Therefore, the intercorrelation among the predictor variables was disregarded. The assumption of multicollinearity was, therefore, not violated. Tables 9 and 10 present the correlation coefficients and VIF, respectively.

Table 10. *Correlation Coefficients-Dependent Variable BI*

Model		Unstandardized Coefficients		Sig.	
		B	St. Error		VIF
1	(Constant)	-1.880	.881	.034	
	RA	.260	.078	<.001	1.892
	CP	.031	.110	.777	1.595
	CT	.692	.088	<.001	2.613
	TT	.008	.111	.940	2.456
	OO	.295	.097	.003	1.131

Linearity, Homoscedasticity, and Independence of Residuals

The normality assumption implies that the numeric data pertaining to all variables under investigation follows a normal distribution (Bila, 2016). According to the central limit theorem (Field, 2009; Elliott & Woodford, 2007), the sampling distribution tends to exhibit a normal distribution with larger samples, typically exceeding 30 or 40 observations, irrespective of the underlying data's geometric characteristics. Consequently, a normal distribution was inferred for this research since the sample size exceeded 40.

Assuming homoscedasticity implies a constant variance of errors across all independent variables (Horner et al., 2016). Residual linearity, homoscedasticity, and independence were

assessed by examining the normal probability plot (P-P) of the standardized residuals in regression and the Durbin-Watson test statistic. Figure 6 illustrates a uniform distribution of data points around the fitted line, indicating no substantial deviations from linearity and homoscedasticity assumptions, as suggested by the P-P plot and histogram analyses in Figure 6.

Figure 6. *Regression Standard Residual Histogram*

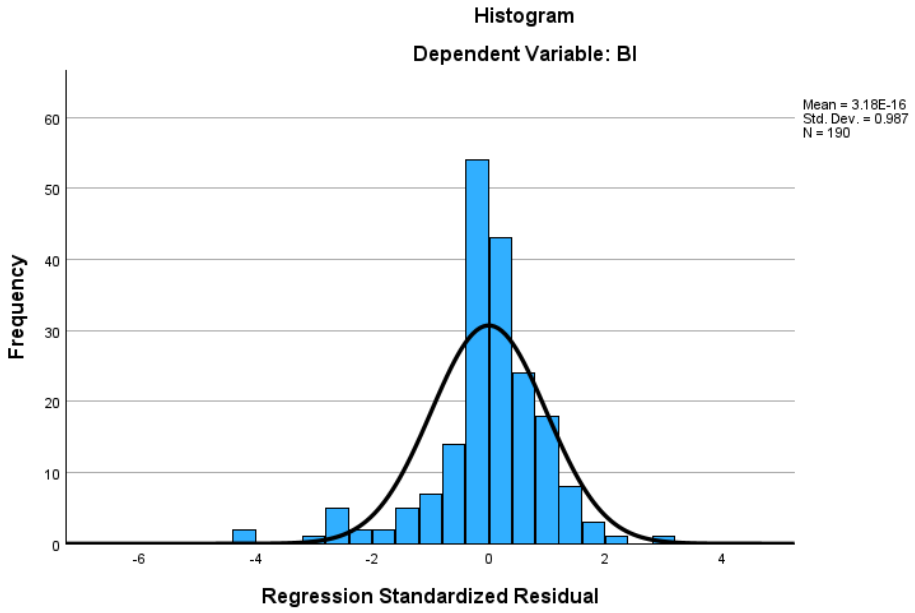
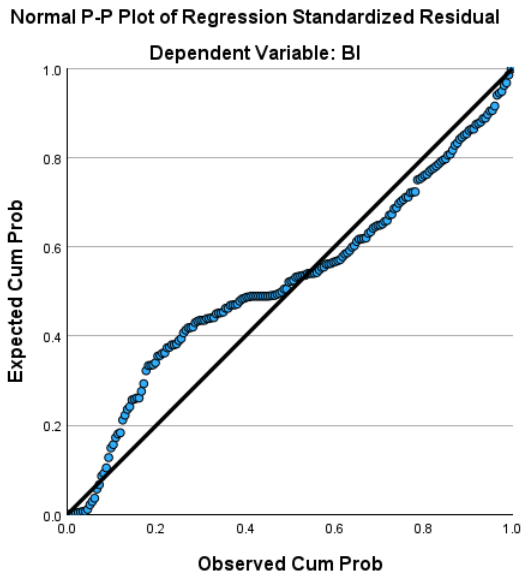


Figure 7. *Normal Probability Plot (P-P) of the Regression Standardized Residuals*



Additionally, the Durbin-Watson statistic was computed to evaluate the independence of the residual assumption, yielding a value of 2.00. According to Thanh Van (2020), a Durbin-Watson value falling within the range of 1.5 to 2.5 signifies the presence of residual independence. Consequently, the assessments of linearity and homoscedasticity were conducted with no discernible indications of significant violations.

Results

Data analysis is crucial in the research process because it allows the researcher to discover and comprehend the data's underlying patterns, relationships, and trends. This researcher addressed the research questions and tested the hypotheses by closely scrutinizing the results, ultimately deriving meaningful conclusions from the data. This section presents the analysis results and offers a thorough interpretation of the findings concerning the research questions and hypotheses.

Research Question One

What is the relationship between the relative advantage of omnichannel use during the COVID-19 pandemic and customers' intention to use BOPS?

The hypotheses corresponding to the research question one is as follows:

$H1_0$: A statistically significant relationship does not exist between the relative advantage of omnichannel shopping during the COVID-19 pandemic and customer intention to use BOPS.

$H1_A$: A statistically significant relationship exists between the relative advantage of using omnichannel shopping during the COVID-19 pandemic and customer intention to use BOPS.

For the study, this researcher did not explicitly measure the Relative Advantage of (BOPS) use during the COVID-19 pandemic. Instead, it was measured using four essential indicators: more accessible access to purchases, user flexibility, user convenience, and time-

saving characteristics. These items' data served as proxies for determining the relative advantage of BOPS.

The Analysis of Variance (ANOVA) indicated a statistically significant model with an F-value of 124.59 and a p-value < .001, which is less than the significance level of 0.05, as shown in Table 11. These findings indicate the significance of the regression model from a statistical standpoint. The Pearson R-value of .635 indicates a moderate to substantial positive correlation. However, the R-squared value of .4 indicates a moderately weak predictive power, indicating that the relative advantage variable explains only 40% of the variance in the intention to use BOPS. Thus, with these findings, we reject the null hypothesis and accept the alternative hypothesis (Ha), confirming a statistically significant relationship between the relative advantage of using BOPS during the pandemic and the intention of customers to use BOPS post the pandemic.

Table 11. *Linear Regression Summary of Relative Advantage and Intention to Use BOBS with Pearson R*

ANOVA						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	409.59	1	409.59	124.59	<.001[b]
	Residual	614.78	187	3.288		
	Total	1024.4	188			

a. Dependent Variable: BI
b. Predictors: (Constant), RA

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.632[a]	0.4	0.397	1.8132

a. Predictors: (Constant), RA

Pearson Correlation		
	RA	Sig
BI	.635**	<.001

**. Correlation is significant at the 0.01 level (2-tailed).

Research Question Two

What is the relationship between the complexity of omnichannel shopping use during the COVID-19 pandemic and customers' behavioral intention to use BOPS?

The hypotheses corresponding to the research question two is as follows:

$H2_0$: A statistically significant relationship does not exist between the complexity experienced from the use of omnichannel shopping during the COVID-19 pandemic and customers' behavioral intention to use BOPS.

$H2_A$: A statistically significant relationship exists between the complexity experienced from the use of omnichannel shopping during the COVID-19 pandemic and customer behavioral intention to use BOPS.

In order to assess the complexity of BOPS, this study employed several key measurements. Participants initially rated the perceived complexity of utilizing BOPS, evaluating the execution's difficulty level. Also, the ease of learning the BOPS shopping procedure was evaluated to determine the service's accessibility and user-friendliness. The importance of an easy-to-use service to customers was considered, yielding insights into customers' preferences for simplified processes. In addition, the participant's perceptions of the ease of using BOPS applications were recorded to investigate the system's suitability to their requirements. The compatibility questions were framed with a focus on simplicity, resulting in outcomes that are inversely related to complexity. Therefore, the interpretation of the results aligns with this perspective. These data collectively served as a reliable measure for determining the complexity of BOPS.

The Analysis of Variance (ANOVA) indicates a statistically significant model with an F-value of 252.99 and a p-value <.001, which is less than the significance level of .05, as shown in Table 12. These findings show the significance of the regression model from a statistical standpoint. The Pearson R-value of .433 indicates a moderately weak negative correlation. Additionally, the R-squared value of .25 indicates a weak predictive power, indicating that the complexity variable explains 25% of the variance in the intention to use BOPS. Thus, with these findings, we reject the null hypothesis and accept the alternative hypothesis (Ha), confirming a statistically significant relationship between the complexity of using BOPS during the pandemic and the intention of customers to use BOPS post the pandemic.

Table 12. *Linear Regression Summary of Complexity and Intention to Use BOBS with Pearson R*

ANOVA						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	255.99	1	255.99	62.3	<.001b
	Residual	768.38	187	4.109		
	Total	1024.4	188			
a. Dependent Variable: BI						
b. Predictors: (Constant), CP						

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.500a	0.25	0.246	2.0271
a. Predictors: (Constant), CP				

Pearson Correlation		
	CP	Sig. (2-tailed)
BI	.433**	<.001
**. Correlation is significant at the 0.01 level (2-tailed).		

Research Question Three

RQ3: What is the relationship between customer compatibility from omnichannel shopping use during the COVID-19 pandemic and customers' behavioral intention to use BOPS?

H30: A statistically significant relationship does not exist between the compatibility of omnichannel shopping during the COVID-19 pandemic and customer behavioral intention to use BOPS.

H3A: A statistically significant relationship exists between the compatibility of omnichannel shopping during the COVID-19 pandemic and customer behavioral intention to use BOPS.

Compatibility was measured using the following indicators: BOPS compatibility with shopper requirements, alignment with shopping type, lifestyle suitability, and computer compatibility. These items were proxies to determine the participants' compatibility with BOPS.

The Analysis of Variance (ANOVA) indicates a statistically significant model with an F-value of 252.09 and a p-value <.001, which is less than the significance level of .05, as shown in

Table 13. Linear Regression Summary of Compatibility and Intention to Use BOBS with Pearson R. These findings indicate the significance of the regression model from a statistical standpoint. The Pearson R-value of .759 indicates a moderately high positive correlation. Additionally, the R-squared value of .758 indicates a strong predictive power, indicating that the compatibility variable explains only 76% of the variance in the intention to use BOPS. Thus, with these findings, we reject the null hypothesis and accept the alternative hypothesis (Ha), confirming a statistically significant relationship between the compatibility of BOPS realized during the pandemic and the intention of customers to use BOPS post the pandemic.

Table 13. *Linear Regression Summary of Compatibility and Intention to Use BOBS with Pearson R*

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	588.11	1	588.11	252.09	<.001b
	Residual	436.26	187	2.333		
	Total	1024.4	188			

a. Dependent Variable: BI

b. Predictors: (Constant), CT

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.758	0.574	0.572	1.5274

a. Predictors: (Constant), CT

Pearson Correlation

	BI	CT	Sig. (2-tailed)
BI	1	.759**	<.001

**. Correlation is significant at the 0.01 level (2-tailed).

Research Question Four

RQ4: What is the relationship between trialability from omnichannel shopping use during the COVID-19 pandemic and customer behavioral intention to use BOPS?

H40: A statistically significant relationship does not exist between the trialability of omnichannel shopping during the COVID-19 pandemic and customer behavioral intention to use BOPS.

H4A: A statistically significant relationship exists between the trialability of omnichannel shopping during the COVID-19 pandemic and customer behavioral intention to use BOPS.

Trialability was measured using four primary indicators in the present study. The indicators included the participants' level of familiarity with BOPS services, the accessibility of BOPS to each respondent, their level of engagement in utilizing BOPS, and the extent to which they were provided with sufficient opportunities to experiment with BOPS. These items were employed as indicators for assessing compatibility with BOPS.

The Analysis of Variance (ANOVA) indicates a statistically significant model with an F-value of 102.35 and a p-value <.001, which is less than the significance level of .05, as shown in Table 14. These findings indicate the significance of the regression model from a statistical standpoint. The Pearson R-value of 0.591 indicates a moderate positive correlation. Additionally, the R-squared value of 0.35 indicates a weak predictive power, indicating that the Trialability variable explains only 35% of the variance in the intention to use BOPS. Thus, with these findings, we reject the null hypothesis and accept the alternative hypothesis (Ha), confirming a statistically significant relationship between the Trialability of BOPS during the pandemic and the intention of customers to use BOPS post the pandemic.

Table 14. *Linear Regression Summary of **Trialability** and Intention to Use BOBS with Pearson R*

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	362.33	1	362.33	102.35	<.001b
	Residual	662.04	187	3.54		
	Total	1024.4	188			
a. Dependent Variable: BI						
b. Predictors: (Constant), TT						

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.595a	0.354	0.35	1.8816
a. Predictors: (Constant), TT				

Pearson Correlation			
	BI	TT	Sig. (2-tailed)
BI	1	.591**	<.001
**. Correlation is significant at the 0.01 level (2-tailed).			

Research Question Five

RQ5: What is the relationship between customer observability of omnichannel shopping use during the COVID-19 pandemic and customers' behavioral intention to use BOPS?

H50: A statistically significant relationship does not exist between the observability of omnichannel shopping during the COVID-19 pandemic and behavioral intention to use BOPS.

H5A: A statistically significant relationship exists between the observability of omnichannel shopping during the COVID-19 pandemic and customer behavioral intention to use BOPS.

Observability of BOPS was measured using three key indicators: the extent to which people in the respondent's social circles were observed using BOPS, the frequency of observing others using BOPS, and the respondent's familiarity with individuals who regularly use BOPS. These items served as reliable proxies for measuring the observability of BOPS during the pandemic.

The Analysis of Variance (ANOVA) indicated a statistically significant model with an F-value of 67.58 and a p-value <.001, which is less than the significance level of .05, as shown in Table 15. These findings indicate the significance of the regression model from a statistical standpoint. The Pearson R-value of .36 indicates a weak positive correlation. Additionally, the R-squared value of 0.265 indicates a weak predictive power, indicating that the Observability variable explains only 26.5% of the variance in the intention to use BOPS. Thus, with these findings, we reject the null hypothesis and accept the alternative hypothesis (Ha), confirming a statistically significant relationship between the Observability of BOPS during the pandemic and the intention of customers to use BOPS post the pandemic.

Table 15. *Linear Regression Summary of Observability and Intention to Use BOBS with Pearson R*

ANOVA						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	271.92	1	271.92	67.578	<.001b
	Residual	752.45	187	4.024		
	Total	1024.4	188			
a. Dependent Variable: BI						
b. Predictors: (Constant), OO						

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.515a	0.265	0.262	2.0059
a. Predictors: (Constant), OO				

Pearson Correlation			
	BI	OO	Sig. (2-tailed)
BI	1	.358**	<.001
****. Correlation is significant at the 0.01 level (2-tailed).**			

Research Question Six

RQ6: What is the relationship between the combined Diffusion of Innovation attributes influenced by the COVID-19 pandemic and customer behavioral intention to use BOPS?

H60: A statistically significant relationship does not exist between the combined Diffusion of Innovation attributes influenced by the COVID-19 pandemic and customer behavioral intention to use BOPS.

H6A: A statistically significant relationship exists between the combined Diffusion of Innovation attributes influenced by the COVID-19 pandemic and customer behavioral intention to use BOPS.

The analysis so far has focused on examining the individual attributes and their respective connections to the respondents' intentions regarding the utilization of BOPs. Concerning the sixth question, we delve deeper into understanding the collective impact of the Diffusion of Innovation attribute, which serves as the independent variable. This analysis involves assessing both the intentions of using BOPs and each attribute's significance within the overarching model. This comprehensive approach gives us a holistic perspective on the complex dynamics influencing the respondents' attitudes and behaviors concerning BOPs.

The ANOVA table (Table 17) shows a significant F-test value (62.030) at $p = 0.001$ ($p < 0.05$), indicating high predictability of the regression analysis on the dependent variable BI. This suggests a well-fitted model, with the five independent variables accurately explaining the variation in the Intention to Use BOPS for shopping. The result highlights a significant relationship between the independent variables and the Intention to Use BOPS services, as indicated by the p-value being less than .05 for the regression model.

The analysis reveals a positive influence of the independent variables (RA, CP, CT, O, and TR) on the dependent variable, behavioral intention to use BOPS, with an R-value of .79. The R Square value of .628 indicates that these variables explain 62.8% of the variance in customer Intention to Use BOPS post the COVID-19 pandemic. However, 39.2% of the variation

remains unexplained, likely influenced by other factors not accounted for in this study. Thus, the results suggest a moderately linear relationship between the Diffusion of Innovation attributes and the intention to use BOPS. Therefore, with these findings, we reject the null hypothesis and accept the alternative hypothesis (Ha), confirming a statistically significant relationship between the combined Diffusion of Innovation attributes and the intention of customers to use BOPS post the pandemic.

Table. 16. *Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.792[a]	.628	.618	1.44413

Note. [a]Predictors (Constant), OO, CP, RA, TT, and CT.

Table 17. *ANOVA--Dependent Variable BI*

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	646.826	5	129.365	62.030	<.001[b]
	Residual	383.735	184	2.086		
	Total	1030.561	189			

Note. [b]Predictors: (Constant), OO, CP, RA, TT, and CT.

Table 18 illustrates that RA, CT, and OO have p-values lower than 0.05. These results indicated that only these variables are significant, indicating a relationship to the increases in BOPS. BI increases as RA increases in value, and all other variables are held constant. As CT increases in value and all other variables are held constant, BI increases in value. Similarly, as OO goes up in value and all other variables are held constant, then BI goes up.

According to Amir (2018), the standard coefficient determines which independent variable has the greatest influence and importance on the dependent variable. In addition, the unstandardized coefficient is employed to determine the impact of a unit change in the independent variable on the dependent variable (Amir, 2018). Table 18 demonstrates that compatibility is the most influential predictor of consumers' intention to use the BOPS service, as it has the highest standardized beta coefficient value (.67). Consequently, the equation derived from the analysis explains that BI increases in value as RA increases. As CT and OO increase in value, so does BI. The remaining variables, TT and CP, have no significant relationship with BI. TT and CT were removed to evaluate the influence of non-significant variables on the model, and a new regression analysis was performed. The findings indicated minimal to negligible effects on the model and its explanatory variables. Thus, the model demonstrates a strong correlation between behavioral intention and relative advantage, compatibility, and observability with or without the non-significant variable.

The analysis shows that the demographic variables of age, gender, and "Buying online and picking up in-store before the COVID-19 pandemic" had no significant effect on the BOPS behavioral intention of respondents. In the regression model, the p-values for the following demographic variables were greater than .05: age = .396, gender = .165, and "Buying online and picking up in-store before the COVID-19 pandemic" =.49. Thus, the influence of the COVID-19 pandemic on BOPS adoption was not significantly associated with age, gender, or the use of BOPS before the COVID-19 pandemic.

Table 18. Unstandardized Coefficients for BI

Model		B	Std. Error	Sig.
1	(Constant)	-1.649	.953	.085
	RA	.254	.078	.001
	CP	-.011	.113	.925
	CT	.668	.090	<.001
	TT	.059	.116	.613
	OO	.281	.098	.005

Therefore, as noted in the hypothesis testing summary in Table 19, the statistical analysis demonstrates that the innovation diffusion attributes of Relative Advantage, Complexity, Observability, Trialability, and Compatibility have individually significant effects on customer behavioral intention to use BOPS, as evidenced by p-values below .05. Consequently, the null hypothesis for these individual attributes is rejected, signifying their substantial influence on customers' behavioral intention to utilize BOPS when considered in isolation. Conversely, the combined model also exhibits significance, with a p-value below 0.05, indicating that the collective impact of these attributes exerts a statistically significant effect on customer behavioral intention to use BOPS. Thus, the null hypothesis for this combined attribute is rejected. Hence, customers' intentions regarding BOPS utilization are influenced by the collective attributes, with Relative Advantage, Complexity, and Observability being the only attributes demonstrating significance within the combined model.

Table 19. *Hypothesis Testing*

	Null Hypothesis	p-value	Interpretation
H1	A statistically significant relationship does not exist between the relative advantage of using omnichannel during the COVID-19 pandemic and customer intention to use BOPS.	<.001	Reject
H2	A statistically significant relationship does not exist between the complexity experienced from using omnichannel during the COVID-19 pandemic and customer intention to use BOPS.	<.001	Rejected
H3	A statistically significant relationship does not exist between the compatibility of omnichannel during the COVID-19 pandemic and customer intention to use BOPS.	<.001	Rejected
H4	A statistically significant relationship does not exist between the trialability of omnichannel during the COVID-19 pandemic and customer intention to use BOPS.	<.001	Rejected
H5	A statistically significant relationship does not exist between the observability of omnichannel during the COVID-19 pandemic and customer intention to use BOPS.	<.003	Rejected
H6	A statistically significant relationship does not exist between the combined Diffusion of Innovation attributes	<.001	Rejected

influenced by the COVID-19 pandemic and customer intention to use BOPS.

General Findings

According to the survey findings, before the onset of the COVID-19 pandemic, only 36.8% of the participants indicated their involvement with BOPS. This statistic highlights the relatively low prevalence of BOPS use among the surveyed population before the onset of the global health crisis. However, the post-pandemic scenario depicts a very distinct picture. More than 84% of respondents have indicated a propensity to persistently use BOPS following the pandemic's influence, ranging from moderate to strong intentions.

Therefore, examining the effects of the COVID-19 pandemic on the use of Buy-Online-Pickup-at-the-Store (BOPS) after the pandemic reveals a strong inclination toward sustained BOPS usage, as indicated by an average response score of 8.23. The analysis of this behavioral change was conducted by utilizing the Diffusion of Innovation attributes framework. The alignment between the theoretical framework and the findings indicates that the attributes of Diffusion of Innovation significantly influence the intention to use BOPS. Furthermore, the influence of the pandemic on customer behavioral intention is mediated by these attributes. Relative advantage, compatibility, and observability exhibit a significant relationship with intending to utilize BOPS in isolation and within the model of other variables.

The study analyzed the relationship between various factors and customers' Intention to Use BOPS services post the pandemic. First, the relationship between individual attributes and behavioral intention was analyzed using a Pearson correlation. The analysis of variance (ANOVA) revealed statistically significant models for each factor (relative advantage (RA),

complexity (CP), compatibility (CT), trialability (TT), and observability (OO)) with F-values ranging from 62.1 to 252.09 and p-values less than .05. The Pearson R-values indicated moderate to substantial positive correlations (0.50 to 0.758) between the factors and the intention to use BOPS. However, the R-squared values showed weak predictive power, ranging from 0.246 to 0.574, suggesting that each factor explained only a portion of the variance in the intention to use BOPS.

Despite the weak predictive power of the individual attributes, the findings provided substantial evidence to reject the null hypothesis and accept the alternative hypothesis, confirming a statistically significant relationship between each factor and the Intention to Use BOPS post the pandemic (see Table 19). The results indicated that customers' intentions in Northwest Arkansas (NWA) were influenced by relative advantage, complexity, compatibility, trialability, and observability of using BOPS services during the pandemic. Overall, the study suggests that when considered individually, these factors significantly shape customers in Northwest Arkansas (NWA) intentions and continued use of BOPS services in the post-pandemic retail landscape.

Additionally, the relationship between the combined Diffusion of Innovation attributes as the independent variable (RA, CP, CT, O, and TR) and the dependent variable, the behavioral intention to use BOPS post-COVID-19 pandemic, was analyzed using multiple linear regression. The analysis revealed a positive relationship between these variables. The regression model showed an R-value of 0.79, indicating a moderately linear relationship between the variables. An R Square value of 0.628 indicated that these variables explained 62.8% of the variance in customer Intention to Use BOPS after the pandemic, with a p-value less than 0.05. Thus, we rejected the null hypothesis and confirmed a statistically significant relationship between the

combined Diffusion of Innovations attributes and customers in Northwest Arkansas' intention to use BOPS.

The study's findings partially contradicted a previous study by Kim et al. (2017), Olatokun & Igbinedion (2009), and Wang et al. (2018), where observability and trialability did not significantly influence the adoption process in the model. However, the present study observed a significant association between relative advantage, complexity, and observability regarding BOPS utilization. The heightened importance of observability during the pandemic may be attributed to the surge in temporary BOPS adoption due to lockdown measures. While relative advantage and complexity were consistently identified as significant predictors, trialability's significance was less clear when considering other variables in the model.

The study's comprehensive synthesis emphasized the significance of relative advantage, compatibility, and observability as crucial factors influencing the adoption of BOPS after the COVID-19 pandemic. Thus, the study supported the theoretical framework using the Diffusion of Innovation attribute as a plausible framework to study the influence of the COVID-19 pandemic on consumer behavioral intention toward BOPS, despite some divergences in findings from previous research by Wang et al. (2018), Mujahidin et al. (2022), Kim et al. (2017, 2020), Chandrasekar and Teye (2017), Olatokun & Igbinedion (2009), and Kapoor (2013). The observed disparities in findings across different studies can be ascribed to differences in research context, sample demographics, research settings, or measurement methodologies.

In summary, the analysis of the influence of the COVID-19 pandemic on the customer Intention to Use BOPS post the COVID-19 pandemic employed the theoretical framework of Diffusion of Innovation attributes. This examination provides significant findings contributing to comprehending customer behavioral intention in a post-pandemic setting. The results emphasize

the importance of relative advantage, compatibility, and observability as factors influencing the adoption of BOPS. Additionally, they provide some insights into the roles of complexity and trialability, although these factors have a relatively minor impact. Examining these findings in relation to prior research reveals similarities and differences, emphasizing the significance of conducting context-specific analyses. This aspect is thoroughly examined and discussed in Chapter 5, where recommendations for future research are also provided.

Chapter 5 – Results, Conclusions and Recommendations

In this Chapter, the author provided a comprehensive discussion and analysis of the research findings regarding the effects of the COVID-19 pandemic influence on the post-pandemic intention to use BOPS. This study investigated the influence of the pandemic on the Intention to Use omnichannel BOPS by examining the relationship between the Diffusion of Innovation attributes and consumer behavioral intention and comparing the obtained results to previous research in the field. The relationship between innovation diffusion attributes and customer Intention to Use BOPS following the COVID-19 pandemic was examined using a quantitative research method and the Diffusion of Innovation attributes as a theoretical framework.

Overview of the study

This research addressed the problem that retail managers do not understand how the COVID-19 pandemic has affected post-pandemic customer behavior toward omnichannel shopping, specifically the BOPS model, and how this change impacts long- and short-term business strategies. Chapter One notes that the pandemic accelerated the intention to use BOPS, but its long-term effects and influencing factors still need to be fully understood. The increase in online sales during the pandemic exemplifies how disruptions can impact customer purchasing decisions (Galoni et al., 2020).

The COVID-19 pandemic accelerated the Intention to Use BOPS solutions as businesses and individuals sought alternative methods to conduct transactions and access services remotely (Mason et al., 2020; Shaw, 2022). BOPS's widespread adoption during the pandemic was primarily due to its convenience and safety (Zhuang et al., 2020). However, it remains to be seen whether the individuals who embraced BOPS during the pandemic will continue to use this

capability after the pandemic subsides, as traditional habits, ease of access, and the availability of in-person alternatives may influence their long-term adoption.

Consequently, retail managers lack comprehension of omnichannel customer behavior, which leads to the development of operational and marketing strategies that are not aligned with customer needs, resulting in poor performance and even business closures (Keel, 2019). Therefore, understanding customer behavior is essential for retail managers to develop effective strategies and capabilities to improve performance and customer retention in the rapidly changing retail landscape influenced by the Pandemic (Hwang et al., 2020; Keel, 2018).

Nonetheless, as highlighted in Chapter Two, research on the Intention to Use BOPS in omnichannel commerce from the customer's perspective is limited and sporadic (Shi et al., 2020), and there needs to be more post-COVID-19 pandemic research in this area. While some studies have examined BOPS antecedents and intention to use, there is a substantial knowledge gap regarding Intention to Use BOPS determinants and the impact of COVID-19 on consumer behavior in this context (Chen & Chi, 2021; Kim et al., 2017, 2020; Jayasingh et al., 2022). Thus, there is a pressing need to comprehend consumer behavior toward retail innovations, particularly considering the COVID-19 pandemic (Spradley, 2021). Thus, the study determines how the pandemic has impacted customer behavior toward omnichannel services such as BOPS and how this influenced consumer Intention to Use BOPS post-pandemic (Hwang et al., 2021) using the attribute of Diffusion of Innovation.

The researcher utilized an online survey modified from Kapoor's (2013) instrument and administered on the Centiment platform to gather data for the study. The survey mainly targeted individuals residing in Northwest Arkansas who had used BOPS services during the COVID-19 pandemic. The study aimed to collect participants' perceptions formed from omnichannel BOPS

use throughout the pandemic, emphasizing their attitudes towards the service and their inclination to sustain its usage beyond the pandemic period. By examining the perception of the respondents, the research illuminated the various elements that impact customer perceptions regarding BOPS, particularly during system shocks.

Methodology

A non-experimental, quantitative correlational approach with a survey research methodology was employed in this study. Examining relationships between variables without manipulation, quantitative correlational research offers insights into the strength and direction of those relationships (Hair et al., 2019). In the context of this study, the relationship between innovation diffusion characteristics and customer behavioral Intention to Use BOPS was analyzed by the researcher (Chiang et al., 2015).

The target population consisted of Northwest Arkansas-based retail consumers with prior Omnichannel services experience during the COVID-19 pandemic in 2020. Data collection involved using a self-administered online survey hosted on the Centiment Research platform, which gathered responses from 190 participants. The survey included questions adapted from Kapoor et al.'s (2013) study to measure innovation diffusion qualities and customer intention to utilize BOPS. The structured questionnaire utilized a 10-point Likert scale across seven sections, encompassing demographic information, attributes of innovation diffusion (relative advantage, complexity, compatibility, observability, and trialability), and customer intentions to use BOPS.

To ensure the reliability of the questionnaire, Cronbach's alpha was employed, with the removal of one item from section six to enhance the dependability in assessing the research variables. This researcher employed standard multiple linear regression in the subsequent analysis, with behavioral intention as the dependent variable. Five independent variables were

considered: relative advantage, compatibility, complexity, trialability, and observability. Regression analysis enabled the determination of significance and strength in the relationships between these predictors and customer behavioral intention towards BOPS.

Results

The study found that the COVID-19 pandemic significantly influenced customers' Intention to Use BOPS services. Before the pandemic, 36.8% engaged with BOPS, while post-pandemic, over 84% indicated a firm intention to continue using BOPS, with an average score of 8.23. When considered individually, the Diffusion of Innovation attributes relative advantage, compatibility, and observability showed a significant relationship with customers' BOPS use intention. The analysis revealed moderate to substantial positive correlations (0.50 to 0.758) between individual attributes and BOPS intention, with a predictive range of 0.246 to 0.574. Multiple linear regression highlighted that these attributes combined in a model showed significance and explained 62.8% of the variance in post-pandemic BOPS intention, with compatibility being the most influential predictor. Trialability and complexity, however, showed no significant effects in the combined model. Overall, the result indicates a significance for the attributes individually and when combined with the customer's intention to use BOPS.

Limitations

While this study has provided valuable insights into the influence of the COVID-19 pandemic on the post-pandemic Intention to Use BOPS using the Diffusion of Innovations attributes, its limitations must be acknowledged. The study's geographic scope is one notable constraint, as the data was obtained in Northwest Arkansas. Thus, potentially limiting the findings' applicability to a larger population and diverse sociocultural contexts. It is possible that this study's data only partially captures regional variations in customer preferences, behaviors,

and responses. Future research could consider conducting larger-scale studies in multiple geographic locations to improve the external validity of the findings and provide a more comprehensive understanding of the Intention to Use BOPS trends to address this limitation.

Furthermore, this study relied on self-reported information gathered via an online questionnaire. While this data capture method is convenient and efficient, it introduces the possibility of response bias. Respondents may provide socially preferable responses or misreport their behaviors, compromising the precision and dependability of the findings. Future research could integrate multiple data collection methods, such as observational studies or monitoring customer behavior through transaction records, to mitigate this limitation.

Additionally, the quantitative nature of this study may need to adequately convey the subtleties and complexities of customer attitudes and behaviors toward Intention to use BOPS. Qualitative research methods, such as in-depth interviews or focus groups, could better understand the underlying motivations and barriers influencing the Intention to Use BOPS post-pandemic. Combining quantitative and qualitative methods could provide a more comprehensive understanding of the subject, enabling researchers to identify subtle factors that quantitative measures may overlook.

Discussion of Findings

The Diffusion of Innovation Theory, first studied by Gabriel Tarde in 1903 and popularized by Rogers, provides a comprehensive framework for understanding how consumers adopt new innovations or services, such as BOPS (Toews, 2003; Rogers, 2003). Thus, the theory posits that adopting an innovation is influenced by both the characteristics of the innovation itself and the attitudes of the potential adopters towards it (Rogers, 1995). The study's results supported the theoretical framework using the Diffusion of Innovation attribute as a plausible

framework to study the influence of the COVID-19 pandemic on consumer behavioral intention toward BOPS. These results are consistent with a large body of research on the explanatory power of innovation characteristics on the intention to accept new services or technologies (e.g., (Oliveira et al., 2016): Wang et al. (2018), Mujahidin et al. (2022), Kim et al. (2017), Chandrasekar and Teye (2017), Olatokun & Igbinedion (2009)). The section discusses the findings and conducts a comparative analysis with previous research.

Relative Advantage

The first attribute analyzed was "Relative Advantage," which demonstrated a consistent and significant relationship with the Intention to Use BOPS both independently and in the presence of other variables. This finding aligns with previous studies by Wang et al. (2018), Mujahidin et al. (2022), Kim et al. (2017), Chandrasekar and Teye (2017), Olatokun & Igbinedion (2009), and Kapoor (2013). Notably, all these studies utilized quantitative methods, enhancing the comparability of the results.

The attribute of relative advantage is vital in determining the success of the Intention to Use BOPS post-COVID. BOPS, being a relatively new concept, offers several advantages over traditional shopping methods, such as timesaving, convenience, and eliminating shipping costs (Kim et al., 2017). The high intention to use BOPS, as indicated by the mean response of 8.23 in the study, suggests that customers perceive significant benefits in adopting this service. These findings align with previous research emphasizing the positive impact of relative advantage on innovation adoption (Abbas et al., 2017; Ali et al., 2019; Wang et al., 2018). Kim (2017) reported that in a 2016 survey conducted by an online retailer, 73% of respondents who picked up an online purchase in-store did so to avoid shipping costs.

The theory also explains that perceived relative advantage influences the adoption rate, as customers are more likely to embrace an innovation that is superior to its alternatives (Kim et al., 2017; Wang et al., 2018). During the COVID-19 pandemic, many respondents used Buy-online-pick-up-in-store (BOPS) for the first time and recognized its relative advantage over conventional purchasing methods. The convenience and time-saving aspect of BOPS became apparent as customers avoided lengthy lines and spent less time in physical stores, thereby reducing the risk of virus exposure (Shi et al., 2020; Gao & Su, 2017). Customers who had previously hesitated to try BOPS due to concerns about order accuracy or the speed of service discovered that their orders were available for pickup on time, and the process was more streamlined and straightforward.

Customers also recognized BOPS's enhanced control and adaptability. They appreciated being able to browse and select products online at their leisure and then schedule a convenient pickup time. This flexibility allowed them to plan their purchasing trips more efficiently and avoid crowded or congested stores (Kim et al. 2022). For instance, a customer who needed to purchase groceries could easily place an order online in the morning and pick it up on their way home from work, thereby avoiding the rush at grocery stores during peak hours.

During the COVID-19 pandemic, adopting BOPS allowed customers to directly experience the relative advantage it provided over traditional purchasing methods. Customers embraced this innovative purchasing method because of the time savings, flexibility, reduced contact, and personalized incentives. As the pandemic subsided, realizing these relative benefits influenced their decision to continue using BOPS in a post-pandemic world.

Compatibility

The "Compatibility" attribute was found to be consistently related to the intention to use BOPS, both independently and in conjunction with other variables. This result is in line with previous quantitative studies by Wang et al. (2018), Mujahidin et al. (2022), Kim et al. (2017), Silva et al. (2018), and Kim et al. (2020). These studies offer valuable insights into the reasons behind the compatibility and Intention to Use BOPS during the pandemic, complementing the quantitative findings.

Compatibility, another diffusion attribute, is crucial in shaping customers' attitudes toward the Intention to Use BOPS post-COVID-19. The pandemic catalyzed the rapid adoption of omnichannel strategies, including BOPS, as businesses faced challenges in traditional retail operations (Valente & Rogers, 1995). As a result, customers had to quickly adapt to these new channels to meet their needs during lockdowns and social distancing measures.

Perceived compatibility with customers' lifestyles, values, and past experiences influences the acceptance of innovations (Rogers, 2003). In the context of BOPS, customers are more likely to embrace this service if it aligns well with their existing shopping habits and preferences (Kim et al., 2017). As previously discussed, many respondents utilized BOPS for the first time as a safer alternative to conventional in-store shopping during the COVID-19 pandemic. As a consequence of this experience, they realized the compatibility of BOPS with their requirements and preferences. Customers found that BOPS offered the convenience of perusing and selecting products online and the immediacy of picking up their purchases without having to wait for deliveries. This compatibility with their desire for quick and contactless purchasing during the pandemic became evident as they encountered the seamless integration of online and offline shopping via BOPS.

In addition, respondents appreciated that BOPS enabled them to maintain their preferred shopping routines and familiarize themselves with the process at their own tempo (Pernot, 2021). The ability to place orders through familiar retail websites and mobile applications and the assurance of physically picking up items from a trusted store location may contribute to compatibility. Customers may realize that BOPS provided a seamless transition from traditional in-store purchasing to a more modern and efficient method while catering to their shopping preferences and comfort levels during the pandemic.

Additionally, the compatibility of BOPS went beyond the customer's convenience. Respondents acknowledged how BOPS aligned with their values of promoting responsible social distancing and reducing potential exposure to congested environments during the health crisis. By utilizing BOPS, customers could comply with health regulations while accessing essential goods and savoring their usual retail experience. This alignment of BOPS with their health and safety concerns nurtured a stronger sense of compatibility and strengthened their resolve to continue using the service post-pandemic.

Consider a respondent who initially hesitated to use BOPS during the pandemic but ultimately tried it. This customer realized that BOPS was a perfect fit for their hectic schedule and desire to avoid crowded locations. A working mother may appreciate the convenience of online browsing and ordering, which enables her to purchase groceries and other necessities during her lunch breaks and after work. In addition, these working mothers may have appreciated the ability to maintain control over their purchases and inspect the items before bringing them home, thereby ensuring their quality and suitability. As a result of this positive experience, they continued to use BOPS throughout the pandemic. They became advocates for the service, recommending it to their friends and family due to its high congruence with their lifestyle.

Overall, the COVID-19 pandemic prompted many customers to experience BOPS for the first time, resulting in a deeper appreciation for its compatibility with their needs and values. The examples above illustrate how BOPS satisfied customers' desires for convenience, safety, and familiarity during uncertain times, influencing their intent to continue using BOPS after the pandemic subsided.

Complexity

Next, the attribute of "Complexity" was explored, showing a negative relationship to using BOPS independently but becoming insignificant when incorporated into the model with other variables. This result deviates from the findings of Wang et al. (2018) and Kim et al. (2020), as well as Olatokun & Igbinedion (2009). The discrepancies between this study and some previous ones emphasize the importance of considering methodological differences and contextual factors that may influence the relationship between complexity and Intention to use BOPS.

The complexity attribute influences customers' perceptions of difficulty in understanding and using an innovation like BOPS. While perceived complexity did show a relationship with the Intention to Use BOPS independently, its significance waned when considered alongside other variables. These findings suggest that while complexity might influence initial adoption considerations, factors like relative advantage and compatibility become more crucial in predicting long-term adoption (Ali et al., 2019; Kim et al., 2017).

The increased use of BOPS due to the pandemic led to some respondents experiencing complexity in using the service. As more individuals transitioned to online shopping and BOPS during the COVID-19 pandemic, some respondents may face challenges understanding the new platform, navigating the order process, or dealing with technical issues. For instance, some

participants might need help selecting the right products, choosing appropriate pickup times, or locating designated pickup points. As a result, they realized the complexity of BOPS, which may have initially deterred them from adopting the service.

The study indicates that complexity negatively correlates with the Intention to Use BOPS when considered by itself. Consequently, participants who perceived BOPS as complex were less likely to adopt or use the service regularly and thoroughly. Their initial experience with complexity may have created a barrier to further adoption, as they may have hesitated to continue using BOPS due to the perceived difficulties associated with the service (Kim, 2017; Kapoor et al., 2013)

However, the significance of complexity diminishes when considered alongside other attributes of the Diffusion of Innovation Theory. While complexity might have initially deterred some individuals from adopting BOPS, other attributes, such as relative advantage and compatibility, overshadowed this concern. For instance, participants who perceived BOPS as offering significant benefits over traditional shopping methods or found it compatible with their preferences and lifestyles might have been more willing to overcome the complex challenges and persist with the Intention to use BOPS.

To illustrate, consider a participant who initially found BOPS complex regarding the online order process and pickup logistics. However, after realizing BOPS's time-saving benefits and convenience during the pandemic, they might have chosen to continue using the service despite the complexity. In this case, BOPS's relative advantage and compatibility outweighed the perceived complexity, leading to sustained adoption.

Trialability

Regarding "Trialability," the analysis showed a relationship with the Intention to Use BOPS independently, but its significance diminished when included in the model with other variables. This finding partially aligns with the results of Wang et al. (2018), Mujahidin et al. (2022), and Olatokun & Igbinedion (2009). It is evident that further exploration and understanding of this attribute's role in Intention to Use BOPS are necessary to clarify.

Trialability refers to the ability to experiment with innovation on a limited basis before fully committing (Yuen, 2018). While trialability independently showed a relationship with the intention to use BOPS, its significance was limited when considering other variables. This result implies that customers might be willing to try BOPS initially, but other factors like perceived relative advantage and compatibility become more critical in predicting long-term adoption (Ali et al., 2019; Wang et al., 2018).

Businesses can offer incentives or promotions for first-time BOPS users to encourage trial usage to capitalize on trialability's initial appeal (Jean, 2022). However, for sustained adoption, the focus should shift to highlighting BOPS's lasting benefits and compatibility. The increased use of BOPS due to the COVID-19 pandemic led to some respondents experiencing the trialability of BOPS. As a result of the pandemic-induced restrictions and safety concerns, consumers turned to BOPS as an alternative shopping method, allowing them to experiment with the service for the first time. For these individuals, the trialability of BOPS became apparent as they navigated the process of ordering online and picking up their purchases in-store.

Through the experience of Trying BOPS, respondents realized the convenience and benefits of BOPS. Such as avoiding long lines and minimizing time spent inside stores, especially during peak shopping hours (Gao & Su, 2017). For instance, a respondent who had

never tried BOPS before the pandemic might have experimented with the service during the pandemic and found that it provided a seamless and efficient shopping experience. This realization of trialability can positively impact the Intention to Use BOPS as customers become more comfortable and familiar with the process.

Moreover, trialability by itself can significantly influence the Intention to use BOPS, as it provides potential adopters with firsthand experience and tangible evidence of the benefits of the innovation. For instance, a customer who tries BOPS for the first time during the pandemic and finds it a convenient and time-saving option may be more inclined to use it regularly in the future. Hence, it aligns with the Diffusion of Innovation theory, which suggests that trialability is essential in the adoption process, allowing individuals to reduce uncertainty and gain confidence in using the innovation (Rogers, 2003).

However, the significance of trialability in influencing Intention to Use BOPS diminishes when considered alongside other Diffusion of Innovation attributes. While trialability can attract initial interest and encourage experimentation, other factors such as relative advantage, compatibility, and observability might significantly shape customers' long-term adoption decisions (Kim, 2017; Jean, 2022). For example, a potential BOPS user might be initially attracted by the trialability of the service during the pandemic but might ultimately prioritize its compatibility with their shopping preferences and lifestyle, as well as its relative advantage.

Observability

Finally, the attribute of "Observability" exhibited a consistent relationship to the Intention to use BOPS, both independently and in the model with other variables, consistent with findings by Olatokun & Igbinedion (2009). The study by Olatokun and Igbinedion (2009) was conducted for the adoption of Mobile banking. However, this result contrasts with the finding by Wang

(2018), Ali et al. (2019), and Kapoor (213). These discrepancies highlight the need for further investigation to ascertain the varying effects of observability on Intention to Use BOPS during and after the COVID-19 pandemic.

The disparities in the influence of observability on the Intention to Use BOPS may be attributable to the unique context of the COVID-19 pandemic and the altered use patterns it brought about. The consistent role of observability in influencing Intention to use BOPS, as observed in studies by Jean (2022) and Yuen et al. (2018), reflects the narrowly held belief that the visibility of an innovation's usage among peers and in public spaces can positively influence adoption decisions.

Nonetheless, the pandemic-driven increase in Intention to Use BOPS may have skewed the results, as the unprecedented circumstances led to a sudden and pervasive shift in consumer behavior. The increased visibility of Intention to Use BOPS during the pandemic, motivated by the need to minimize physical contact and crowded in-store experiences, may have had an inflated impact on the significance of observability in this study. This context may explain the discrepancy between Ali et al. (2019) and Kapoor's study findings.

Furthermore, it is plausible to assume that the pandemic context amplified the role of observability in influencing the Intention to Use BOPS intentions. Further study in varied contexts, including both pandemic-driven and non-pandemic scenarios, is required to gain a more thorough understanding of the impact of observability. Such a study would validate the robustness of the current findings and provide a clearer picture of observability's actual role in driving innovation adoption decisions.

Therefore, in the pandemic context, the increased use of BOPS induced by the pandemic led to some respondents observing the benefits of this innovative shopping method. For instance,

during the height of the COVID-19 pandemic, many customers embraced BOPS to minimize physical interactions and reduce their exposure to potential infection risks in crowded stores. As a result, they experienced the relative advantage of BOPS, such as the convenience of placing orders online and the efficiency of picking up purchases without the need for prolonged in-store shopping. This realization of the advantages of BOPS further contributed to the observability of the innovation.

As more customers opted for BOPS during the pandemic, their positive experiences were shared through word-of-mouth and social media. Some respondents witnessed friends and family members opting for BOPS and heard positive reviews about its convenience and safety. This social influence played a significant role in shaping their perceptions of BOPS and increased its observability. The visibility of Intention to Use BOPS in their social circles led them to consider trying the service themselves.

This positive observability and compatibility with their lifestyle contributed to the customer's continued use of BOPS post the pandemic. Even as COVID-19 restrictions eased, they found the habit of using BOPS ingrained in their shopping routine. BOPS's convenience and time-saving nature remained appealing, encouraging them to maintain this innovative shopping behavior even when traditional in-store shopping became more accessible.

Recommendations for Future Research

The findings of this study hold significant theoretical implications, offering insights into the role of Diffusion of Innovation attributes in shaping the Intention to Use BOPS during system shocks. Moreover, it contributes to the existing knowledge on technology adoption and advances the Diffusion of Innovation theory. The study enriches the Diffusion of Innovation theory by empirically demonstrating how attributes like relative advantage, compatibility, and

observability operate in a rapidly changing retail landscape during a pandemic. Several key areas warrant focused investigation to advance understanding in the Omnichannel domain.

Future research should adopt a holistic strategy crucial to understanding the underlying causes of customers' preference for integrated shopping experiences. This approach should include several aspects, such as the smooth transition between online and offline channels, the significance of personalization, and the impact of future technologies such as augmented reality (AR) and virtual reality (VR). It is essential to thoroughly examine the possible obstacles presented by concerns over data privacy, security, and trust in influencing customer behavior. For organizations to adapt successfully, it will be essential to comprehend the underlying motives and potential constraints they may encounter.

Additionally, valuable learning may be obtained by examining the effects of omnichannel approaches such as BOPS on several facets of the retail industry. These factors include evaluating BOPS's impact on in-store foot traffic, sales, customer satisfaction, and its role in fostering customer loyalty. Examining technology integration and user experience is vital, with specific attention given to technologies such as AI recommendations and chatbots and the role of mobile apps and user interfaces in ensuring a seamless shopping journey.

Further, as future research unfolds, it should be mindful of the limitations inherent in the scope of the current study, which focused on a specific region, and work towards encompassing broader demographics and geographies for more generalizable insights. Moreover, longitudinal studies should be used to track intention conversion into actual usage patterns. In the ever-evolving post-pandemic retail landscape, a holistic and forward-thinking research approach will be instrumental for businesses to adapt, refine strategies, and thrive in a dynamic consumer environment.

Practical Implications

The outcome of this study underscores that customers are maintaining their use of BOPS even after the COVID-19 pandemic. Considering this, businesses must persist in their investment in BOPS to cater to evolving consumer preferences. However, the study also highlights the imperative for businesses to harness the attributes of innovation diffusion to foster sustained and loyal usage of BOPS. Thus, the findings of this dissertation have profound implications for businesses seeking to navigate the evolving retail landscape in the aftermath of the COVID-19 pandemic. Understanding the impact of the Diffusion of Innovation attributes on adopting BOPS can inform strategic operational and marketing decisions and help businesses capitalize on the changing consumer behavior post-pandemic. Here are the expanded implications for businesses:

Emphasize the Relative Advantage of BOPS

Businesses should emphasize the advantages of online shopping (BOPS) over traditional shopping methods in their marketing strategies. Emphasizing convenience, time-saving benefits, and reduced exposure to crowded stores can attract more customers to adopt BOPS (Wang, 2018). Clear and compelling communication about the advantages can alleviate concerns about potential complexities and motivate customers to embrace the new shopping approach. For example, a retail clothing brand can showcase the benefits of BOPS by showcasing online shopping, exclusive discounts, and in-store pickup, saving on shipping costs and ensuring a seamless shopping experience. The brand can further promote the convenience of trying on items in-store and facilitating easy returns or exchanges during pickup, providing an added advantage over purely online shopping.

The consistently positive relationship between relative advantage and the Intention to Use BOPS highlights the importance of emphasizing the unique benefits of BOPS over traditional shopping methods. Targeted marketing campaigns and promotions that accentuate the advantages of BOPS can attract a broader customer base. Major retailers like Walmart and Target have successfully promoted BOPS services by emphasizing online shopping and order pickup within hours, saving time, and avoiding shipping delays.

Strategically Adapting BOPS to Align with Customer Needs

The strong positive relationship between compatibility and the Intention to Use BOPS emphasizes the importance of aligning BOPS with customers' existing values, experiences, and needs. Understanding the diverse preferences of the target audience is essential for tailoring BOPS services to meet their specific needs. Segmenting customers based on demographics, shopping habits, and preferences can help businesses offer personalized experiences (Shi et al., 2020). Offering flexible pickup hours, contactless delivery options, and loyalty rewards can cater to different customer segments. For example, an electronics retailer can offer contactless QR code pickups for tech-savvy customers and traditional customers who prefer interaction with store staff. Introducing a VIP loyalty program for frequent users can also provide exclusive benefits.

Aligning BOPS with customers' expectations for safety, efficiency, and seamless shopping experiences is crucial. Starbucks introduced curbside pickup during the pandemic to cater to customers seeking convenience and contactless options. Compatibility is also essential, as offering flexible pickup times, multiple locations, and personalized incentives can enhance the experience. Conducting customer research to identify specific preferences and pain points related to shopping experiences can foster personalization and enhance overall customer satisfaction.

Integrating BOPS with existing loyalty programs or offering customized product recommendations can enhance compatibility and encourage repeat usage.

Marketing Strategies and Communication

The observability attribute highlights the importance of positive testimonials and user-generated content in influencing technology adoption. Businesses can leverage social influence and word-of-mouth recommendations to increase BOPS's visibility and create a positive perception among potential adopters. Implementing marketing strategies highlighting the BOPS's positive experiences can further increase its observability and encourage more customers to try the service. Maximizing observability involves displaying the benefits of BOPS through various channels, such as social media, testimonials, and user-generated content. Encouraging satisfied customers to share their experiences and incentivizing social sharing can amplify the observability of BOPS, attracting more customers to try the service.

The positive relationship between observability and the Intention to Use BOPS highlights the role of social influence and positive word-of-mouth in driving adoption. Businesses should actively promote customer success stories and encourage satisfied BOPS users to share their experiences through social media and reviews. Providing referral incentives can motivate existing customers to advocate for Intention to Use BOPS among their networks, enhancing the visibility of Intention to Use BOPS and creating a sense of trust and reliability among potential adopters.

Demonstrating the benefits of BOPS through positive testimonials and user-generated content can boost observability and attract new adopters. Businesses can encourage satisfied customers to share their experiences on social media or through online reviews. Best Buy

showcases customer success stories on its website, highlighting the convenience and safety of using BOPS during the pandemic.

Consider Contextual Factors in Implementation

The finding shows that the impact of complexity and trialability on the Intention to Use BOPS may vary depending on contextual factors, such as regional preferences, cultural differences, and technological readiness. Businesses should conduct localized market research and understand the local customer landscape to tailor BOPS strategies to suit diverse market segments effectively. For example, a global fashion retailer may need to modify its BOPS offerings in different countries based on the prevalence of online shopping and local preferences for in-store experiences. In some regions, BOPS may be embraced more readily due to existing cultural norms, while in others, additional efforts may be needed to promote the benefits and safety of BOPS during the pandemic. Businesses can invest in customer education programs in regions with low digital literacy to familiarize potential adopters with the BOPS process and its benefits.

Context-specific research and localized insights can offer a deeper understanding of customer preferences and barriers to adoption. Businesses should also explore specific demographic groups or regions to tailor BOPS strategies accordingly. By acknowledging the complexities of innovation adoption in diverse contexts, businesses can develop more targeted and practical approaches to promoting BOPS. The context-specific nature of Intention to Use BOPS requires businesses to adapt their strategies to suit specific contexts and target audience characteristics.

Offer Trial Opportunities for Potential Users

Trialability is a crucial strategy for attracting potential BOPS users, significantly impacting their Intention to use the service. Offering discounts or promotions for first-time users can create a positive initial experience, leading to greater trust and confidence in BOPS. For example, a pet supply store can offer a discount on their first online order with in-store pickup, entice customers to try the service, and experience the convenience without committing to a complete purchase. Additionally, a satisfaction guarantee can ensure customers can return products hassle-free if not fully satisfied.

While trialability's significance diminishes when other influential attributes are considered, it remains a crucial strategy to attract potential BOPS users initially. Businesses should implement initiatives such as free trials, first-time user discounts, or limited time offers to encourage customers to experience the benefits of BOPS firsthand. Collecting feedback and addressing concerns can improve the adoption experience during the trial period. However, businesses should focus on transitioning trial users into long-term adopters by consistently delivering value and reinforcing BOPS's relative advantage and compatibility aspects.

Theoretical Implications

The findings of this study hold significant theoretical implications, offering insights into the role of Diffusion of Innovation attributes in shaping the adoption of BOPS during system shocks. Moreover, it contributes to the existing knowledge on technology adoption and advances the Diffusion of Innovation theory. The study enriches the Diffusion of Innovation theory by empirically demonstrating how attributes like relative advantage, compatibility, and observability operate in a rapidly changing retail landscape during a pandemic. Moreover, it reaffirms their influence in driving technology adoption. The varying impact of complexity and

trialability emphasizes their dynamic nature, calling for further investigation to understand their nuanced roles.

Additionally, the study also underscores the significance of context in technology adoption. The divergent findings on complexity and trialability highlight the contextual nature of adoption decisions, indicating that factors such as the severity of the pandemic and individual preferences influence these attributes' significance. The result emphasizes the importance of context-specific research and recognizes that technology adoption is a complex, context-sensitive process.

Furthermore, the study extends the Diffusion of Innovations theory's utility by examining its applicability in the context of a global crisis. Further, the results offer a contemporary insight into how innovation attributes shape technology adoption during crises. Therefore, the study extends the framework's application beyond retail and enriches the theoretical understanding of technology adoption under challenging circumstances.

Lastly, the study acknowledges the multifaceted nature of adoption decisions. Thus, attributes like complexity and trialability interact with other influential factors. Consequently, they underscore the importance of considering a diverse range of attributes when developing strategies for technology adoption, providing a foundation for further research in the field.

Summary

This study explored the influence of the COVID-19 pandemic on customer behavior towards omnichannel shopping, particularly the BOPS model, consequently impacting retailer performance. The research underscores that, however, while the pandemic accelerated the Intention to Use BOPS due to the lockdown and safety considerations, there is still a need for a deeper understanding of the long-term effects and influencing factors of this adoption.

Furthermore, the surge in online sales during the pandemic vividly demonstrated the disruptive potential of such events on consumer purchasing behavior. However, a significant gap exists in our understanding of post-pandemic customer behavioral intentions toward omnichannel shopping. The study aimed to bridge this knowledge gap by investigating the influence of innovation diffusion attributes, including relative advantage, compatibility, complexity, observability, and trialability, on consumers' Intention to Use BOPS both during and post-pandemic.

As demonstrated in the analysis, the study results provide significant insights into the role of these attributes in driving the Intention to use BOPS. The relative advantage of BOPS over traditional shopping methods, emphasizing its benefits, was a crucial factor consistent with prior research that underscored the significance of perceived relative advantage in adopting innovations. Compatibility emerged as another crucial attribute, resonating with customers' preferences and values during the pandemic, as BOPS provided a seamless and safety-conscious shopping experience. Though initially influential, complexity was overshadowed by the weight of other attributes in predicting long-term adoption, suggesting that simplifying the adoption process could enhance BOPS's appeal. Observability, highlighting the visibility of Intention to Use BOPS among peers and on social platforms, played a consistent role in influencing adoption intentions, although the pandemic context might have amplified its significance. Lastly, trialability, which allows customers to experiment with the innovation, exhibited potential for attracting initial interest but lost significance when considered alongside other attributes.

A quantitative study applying the Diffusion of Innovation Theory to Intention to Use BOPS post-COVID provides a robust framework for understanding how different attributes shape consumers' intentions. This analysis offers actionable insights for businesses aiming to

capitalize on Intention to use BOPS. Organizations can create effective marketing strategies that cater to evolving consumer needs and preferences by emphasizing BOPS's convenience, compatibility, and relative advantage. The study's findings also highlight the need for ongoing adaptation and innovation as the pandemic's impact on shopping behavior continues to evolve in a dynamic retail landscape. This study contributes to understanding post-pandemic consumer behavior and offers a foundation for businesses to thrive in the rapidly changing retail environment. However, further research is required to explore the observed discrepancies in observability's influence and to support these findings across varied contexts to create a more comprehensive understanding of the Intention to use BOPS.

In conclusion, the findings of this study underscore the transformative impact of a sudden and substantial shock, such as the COVID-19 pandemic, on innovation adoption and its subsequent long-term implications. The observed surge in the adoption of the BOPS model during the pandemic is a testament to the potential for external events to induce rapid shifts in consumer behavior. Moreover, the pandemic functioned as a catalyst, compelling individuals and businesses to embrace alternative methods, such as Omnichannel BOPS, for their transactions and services out of necessity for safety and convenience.

However, the significance of this study reaches beyond the immediate context of the pandemic. These initial adoption behaviors may have lasting effects that redefine the post-pandemic retail landscape. The concept of a "new normal" emerges as a pivotal theme, indicating that consumer behavior is unlikely to fully revert to its pre-pandemic state. The shock of the pandemic has introduced consumers to novel ways of shopping, such as BOPS, which have resonated with their needs for safety, convenience, and flexibility.

As the pandemic subsides, the study implies that consumers will continue to prioritize the attributes of BOPS that align with their newfound preferences. The heightened visibility of Intention to Use BOPS during the pandemic, compatibility, and observable benefits can reshape the retail industry's dynamics for the long term. Consumers are not merely reverting to pre-pandemic behaviors; instead, they are adopting an amalgamation of traditional and innovative practices that offer control, safety, and efficiency.

The study ultimately reinforces the need for businesses to embrace agility and innovation in response to these changing consumer behaviors. It underscores that post-pandemic strategies should not be based on a return to the status quo but on adapting to the evolving needs and preferences that the pandemic has illuminated. By acknowledging the persistent impact of shock-induced innovation adoption and recognizing the emergence of a "new normal," businesses can position themselves strategically to thrive in this transformed retail landscape. Thus, the study's findings resonate as a timely call for businesses to navigate the present uncertainties with an eye toward the future, embracing innovation as a driving force in shaping the retail landscape post-pandemic.

.

References

Abbas, M., Shahid Nawaz, M., Ahmad, J., & Ashraf, M. (2017). The effect of innovation and consumer-related factors on consumer resistance to innovation. *Cogent Business & Management*, *4*(1), 1312058. https://doi.org/10.1080/23311975.2017.1312058

Adelson, J. L., & McCoach, D. B. (2010). Measuring the mathematical attitudes of elementary students: The effects of a 4-point or 5-point Likert-type scale. *Educational and Psychological Measurement*, *70*(5), 796–807. https://doi.org/10.1177/0013164410366694

Agag, G., & El-Masry, A. A. (2016). Understanding consumer intention to participate in online travel community and effects on consumer intention to purchase travel online and WOM: An Integration of Innovation Diffusion Theory and tam with trust. *Computers in Human Behavior*, *60*, 97–111. https://doi.org/10.1016/j.chb.2016.02.038

Agarwal, A., Jain, I., Sharma, J., & Jha, P. (2021). Impact of COVID-19 Lockdown on Consumer Behaviour. *Differ. Strokes DS JHC, 6,* 44-55. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.researchgate.net/profile/Anvi-Agarwal-2/publication/355584538_Impact_of_COVID-19_Lockdown_on_Consumer_Behaviour/links/6177914aa767a03c14b4ecec/Impact-of-COVID-19-Lockdown-on-Consumer-Behaviour.pdf

Agarwal, R. (2000). Individual acceptance of information technologies. Framing the domains of IT management: Projecting the future through the past. *Cincinnati, OH: Pinnaflex Education Resources, 85*-104.

Agarwal, R., & Prasad, J. (1997). The role of innovation characteristics and perceived voluntariness in the acceptance of Information Technologies. *Decision Sciences*, *28*(3), 557–582. https://doi.org/10.1111/j.1540-5915.1997.tb01322.x

Agarwal, R., & Prasad, J. (1998). A conceptual and operational definition of personal innovativeness in the domain of Information Technology. *Information Systems Research*, *9*(2), 204–215. https://doi.org/10.1287/isre.9.2.204

Akshaya, G., & Phadtare, P. (2022). A study to identify the impact of COVID-19 on the Trust and risk perceptions of online buying behaviour. *CARDIOMETRY*, (22), 191–202. https://doi.org/10.18137/cardiometry.2022.22.191202

Alba, J., Lynch, J., Weitz, B., Janiszewski, C., Lutz, R., Sawyer, A., & Wood, S. (1997). Interactive home shopping: Consumer, retailer, and manufacturer incentives to participate in electronic marketplaces. *Journal of Marketing*, *61*(3), 38. https://doi.org/10.2307/1251788

Al-Bakri, A. A., & Katsioloudes, M. I. (2015). The factors affecting e-commerce adoption by Jordanian smes. *Management Research Review*, *38*(7), 726–749. https://doi.org/10.1108/mrr-12-2013-0291

Ali, M., Raza, A., & Chin-Hong Puah. (2015). Factors affecting intention to use Islamic personal financing in Pakistan: Evidence from the modified TRA model. *RePEc: Research Papers in Economics*, *66023*.

Ali, M., Raza, S. A., Puah, C. H., & Amin, H. (2019). Consumer acceptance toward takaful in Pakistan. *International Journal of Emerging Markets*, *14*(4), 620–638. https://doi.org/10.1108/ijoem-08-2017-0275

Ali, O., & Soar, J. (2018). Technology innovation adoption theories. *Technology Adoption and Social Issues*, 821–860. https://doi.org/10.4018/978-1-5225-5201-7.ch037

Al-Jabri, I. M., & Sohail, M. S. (2012). Mobile Banking Adoption: Application of Diffusion of Innovation Theory. *Journal of Electronic Commerce Research*, *13*(4), 379–391.

https://search-ebscohost-com.links.franklin.edu/login.aspx?direct=true&db=iih&AN=84016826&site=ehost-live

Al-Rahmi, W. M., Yahaya, N., Aldraiweesh, A. A., Alamri, M. M., Aljarboa, N. A., Alturki, U., & Aljeraiwi, A. A. (2019). Integrating technology acceptance model with Innovation Diffusion Theory: An empirical investigation on students' intention to use E-Learning Systems. *IEEE Access*, *7*, 26797–26809. https://doi.org/10.1109/access.2019.2899368

Altman, D. G., & Bland, J. M. (1995). Statistics notes: the normal distribution. *Bmj*, *310*(6975), 298.

Amaro, S., & Duarte, P. (2015). An integrative model of consumers' intentions to purchase travel online. *Tourism Management*, *46*, 64–79. https://doi.org/10.1016/j.tourman.2014.06.006

Amir, S. M. J. (2018). Standardized vs unstandardized regression coefficients? - researchgate. https://www.researchgate.net/post/Standardized-vs-Unstandardized-regression-coefficients

Arora, N., Charm, T., Grimmelt, A., Ortega, M., Robinson, K., Sexauer, C., Staack, Y., Whitehead, S., & Yamakawa, N. (2020). A global view of how consumer behavior is changing amid COVID-19. In *Mckinsey and Company.* Mckinsey and Company. https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/Marketing%20and%20Sales/Our%20Insights/A%20global%20view%20of%20how%20consumer%20behavior%20is%20changing%20amid%20COVID%2019/20200707/COVID-19-global-consumer-sentiment-20200707.pdf

Au, Y. A., & Kauffman, R. J. (2008). The economics of mobile payments: Understanding stakeholder issues for an emerging financial technology application. *Electronic*

Commerce Research and Applications, *7*(2), 141–164. https://doi.org/10.1016/j.elerap.2006.12.004

Avşar, B. Z., (2021). Omni-Channel Trends in COVID-19 Pandemic. *Journal of International Trade, Logistics and Law*, *7*(1), 97–104. https://search-ebscohost-com.links.franklin.edu/login.aspx?direct=true&db=edsdoj&AN=edsdoj.b0f7349ad7d146a9b9d6026c8e4c34f6&site=eds-live

Babbie, E. (2016). The basics of social research. Boston, MA, USA: Cengage Learning.

Babbie, E. R. (2019). *The Basics of Social Research*. Cengage Learning.

Babbie, E., & Mouton, J. (2016). The practice of social research. Oxford University Press.

Balasubraman, S., Peterson, R. A., & Jarvenpaa, S. L. (2002). Exploring the implications of M-Commerce for markets and marketing. *Journal of the Academy of Marketing Science*, *30*(4), 348–361. https://doi.org/10.1177/009207002236910

Balasubramanian, S., Raghunathan, R., & Mahajan, V. (2005). Consumers in a multichannel environment: Product utility, process utility, and Channel Choice. *Journal of Interactive Marketing*, *19*(2), 12–30. https://doi.org/10.1002/dir.20032

Baroroh, D. K., & Agarwal, A. (2022). Immersive Technologies in Indonesia faces “new normal” COVID-19. *International Journal of Technology*, *13*(3), 633. https://doi.org/10.14716/ijtech.v13i3.5220

Beck, N., & Rygl, D. (2015). Categorization of multiple channel retailing in multi-, cross-, and Omni-channel retailing for retailers and retailing. *Journal of Retailing and Consumer Services*, *27*, 170–178. https://doi.org/10.1016/j.jretconser.2015.08.001

Belvedere, V., Martinelli, E. M., & Tunisini, A. (2021). Getting the most from E-commerce in the context of Omnichannel Strategies. *Italian Journal of Marketing*, *2021*(4), 331–349. https://doi.org/10.1007/s43039-021-00037-6

Bendoly, E., Blocher, J. D., Bretthauer, K. M., Krishnan, S., & Venkataramanan, M. A. (2005). Online/in-store integration and customer retention. *Journal of Service Research*, *7*(4), 313–327. https://doi.org/10.1177/1094670504273964

Bermudez-Edo, M., Barnaghi, P., & Moessner, K. (2018). Analysing real world data streams with spatio-temporal correlations: Entropy vs. Pearson correlation. *Automation in Construction*, *88*, 87–100. https://doi.org/10.1016/j.autcon.2017.12.036

Bishop, P. A., & Herron, R. L. (2015). Use and Misuse of the Likert Item Responses and Other Ordinal Measures. *International Journal of Exercise Science*, *8*(3), 297–302. https://search-ebscohost-com.links.franklin.edu/login.aspx?direct=true&db=s3h&AN=108328047&site=ehost-live

Boyle, P., Bond, R., Martinez Carracedo, J., Simmons, G., Mulvenna, M., & Hollywood, L. (2022). The impact of the COVID-19 pandemic on Grocery Shopper Behaviour: Analysis of shopper behaviour change using store transaction data. *Journal of Consumer Behaviour*, *21*(2), 259–271. https://doi.org/10.1002/cb.1999

Brandtner, P., Darbanian, F., Falatouri, T., & Udokwu, C. (2021). Impact of COVID-19 on the customer end of Retail Supply Chains: A big data analysis of consumer satisfaction. *Sustainability*, *13*(3), 1464. https://doi.org/10.3390/su13031464

Browne, M., & Redman, R. (2019). Curbside pickup is the new last mile: The perfect marriage of online and brick-and-mortar commerce is exploding at retailers nationwide. *SN:*

Supermarket News, 22–25. https://search-ebscohost-com.links.franklin.edu/login.aspx?direct=true&db=bth&AN=138510499&site=eds-live

Bryman, A. (2016). *Social research methods*. New York, NY: Oxford University Press.

Brynjolfsson, E., YU JEFFREY HU, & RAHMAN, M. S. (2013). Competing in the Age of Omnichannel Retailing. *MIT Sloan Management Review*, *54*(4), 23–29. https://search-ebscohost-com.links.franklin.edu/login.aspx?direct=true&db=buh&AN=88338648&site=ehost-live

Cao, L., & Li, L. (2018). Determinants of retailers' cross-channel integration: An innovation diffusion perspective on omni-channel retailing. *Journal of Interactive Marketing*, *44*, 1–16. https://doi.org/10.1016/j.intmar.2018.04.003

Carlyle, C. (2012, Summer-Fall). Retail space in the future: how technology has changed the way we shop. *Real Estate Issues*, *37*(2-3), 38+. https://link.gale.com/apps/doc/A313519304/AONE?u=anon~f5c2d682&sid=googleScholar&xid=309f6e06

Carmines, E. G., & Zeller, R. A. (2018). *Reliability and validity assessment*. SAGE Publications.

Chatterjee, P. (2010). Causes and consequences of 'order online pick up in-store' shopping behavior. *The International Review of Retail, Distribution and Consumer Research*, *20*(4), 431–448. https://doi.org/10.1080/09593969.2010.504009

Cheah, S., Ho, Y.-P., & Li, S. (2018). Business Model Innovation for Sustainable Performance in retail and Hospitality Industries. *Sustainability*, *10*(11), 3952. https://doi.org/10.3390/su10113952

Chen, J., & Shen, X.-L. (2015). Consumers' decisions in Social Commerce Context: An empirical investigation. *Decision Support Systems*, *79*, 55–64. https://doi.org/10.1016/j.dss.2015.07.012

Chen, Lei da. (2008). A model of consumer acceptance of Mobile Payment. *International Journal of Mobile Communications*, *6*(1), 32. https://doi.org/10.1504/ijmc.2008.015997

Chen, Lei-da, Gillenson, M. L., & Sherrell, D. L. (2002). Enticing online consumers: An Extended Technology Acceptance Perspective. *Information & Management*, *39*(8), 705–719. https://doi.org/10.1016/s0378-7206(01)00127-6

Chen, Lei-da, Gillenson, M. L., & Sherrell, D. L. (2004). Consumer acceptance of Virtual Stores. *ACM SIGMIS Database: The DATABASE for Advances in Information Systems*, *35*(2), 8–31. https://doi.org/10.1145/1007965.1007968

Chen, Li, & Mersereau, A. J. (2015). Analytics for operational visibility in the retail store: The cases of censored demand and inventory record inaccuracy. *International Series in Operations Research & Management Science*, 79–112. https://doi.org/10.1007/978-1-4899-7562-1_5

Chen, T., Kenneth Cheng, H., (Jimmy) Jin, Y., Li, S., & Qiu, L. (2021). Impact of competition on innovations of IT industry: An empirical investigation. *Journal of Management Information Systems*, *38*(3), 647–666. https://doi.org/10.1080/07421222.2021.1962590

Chen, Yang, Cheung, C. M. K., & Tan, C.-W. (2018). Omnichannel Business Research: Opportunities and challenges. *Decision Support Systems*, *109*, 1–4. https://doi.org/10.1016/j.dss.2018.03.007

Chen, Yini, & Chi, T. (2021). How does channel integration affect consumers' selection of Omni-channel shopping methods? an empirical study of U.S. consumers. *Sustainability*, *13*(16), 8983. https://doi.org/10.3390/su13168983

Chesbrough, H. (2003). *Open innovation: The new imperative for creating and profiting from technology.* Boston, MA: Harvard Business Press.

Cheung, W., Chang, M. K., & Lai, V. S. (2000). Prediction of Internet and world wide web usage at work: A test of an extended TRIANDIS model. *Decision Support Systems*, *30*(1), 83–100. https://doi.org/10.1016/s0167-9236(00)00125-1

Chiang, I.-C. A., Jhangiani, R. S., & Price, P. C. (2015). *Correlational Research. In Research Methods in Psychology*. BCcampus. https://opentextbc.ca/researchmethods/Chapter/correlational-research/

Cho, J. (2004). Likelihood to abort an online transaction: Influences from cognitive evaluations, attitudes, and behavioral variables. *Information & Management*, *41*(7), 827–838. https://doi.org/10.1016/j.im.2003.08.013

Cocco, H., & De-Juan-Vigaray, M. D. (2022). A typology of omnichannel retailer activities during the COVID-19 pandemic. *International Journal of Retail & Distribution Management*, *50*(8/9), 1062–1094. https://doi.org/10.1108/ijrdm-10-2021-0506

Cohan, P. (2020). *How COVID-19 Is Boosting Wayfair Stock*. Forbes. https://www.forbes.com/sites/petercohan/2020/04/21/how-COVID-19-is-boosting-wayfair-stock/

Cohen, R. J., Swerdlik, M. E., & Sturman, E. D. (2013). *Psychological testing and assessment: An introduction to tests and measurement*. McGraw-Hill.

Comberg, C., & Velamuri, V. K. (2017). The introduction of a competing business model: The case of ebay. *International Journal of Technology Management*, *73*(1/2/3), 39. https://doi.org/10.1504/ijtm.2017.10003240

Craven, M., Liu, L., Mysore, M., & Wilson, M. (2022, April 13). *COVID-19: Implications for business*. McKinsey & Company. https://www.mckinsey.com/business-functions/risk/our-insights/COVID-19-implications-for-business

Creswell, J. W. (2009). Mapping the Field of Mixed Methods Research. *Journal of Mixed Methods Research*, *3*(2), 95–108. https://doi.org/10.1177/1558689808330883

Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Thousand Oaks, CA: Sage.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approach.* Los Angeles: Sage Publications.

Damen, A. (2022, February 16). *What is buy online, pick-up in store in retail?*. Shopify. https://www.shopify.com/retail/BOPS

Das, D., Sarkar, A., & Debroy, A. (2022). Impact of COVID-19 on changing consumer behaviour: Lessons from an emerging economy. *International Journal of Consumer Studies*, *46*(3), 692–715. https://doi.org/10.1111/ijcs.12786

Dearing, J. W., Meyer, G., & Kazmierczak, J. (1994). Portraying the New: Communication Between University Innovators and potential users. *Science Communication*, *16*(1), 11–42. https://doi.org/10.1177/0164025994016001002

De-Juan-Vigaray, M. D., & Seguí, A. I. (2019). Retailing, consumers, and territory: Trends of an incipient circular model. *Social Sciences*, *8*(11), 300. https://doi.org/10.3390/socsci8110300

DeVellis, R. F. (2017). *Scale development: Theory and applications* (4th ed.). SAGE Publications.

DeVellis, R. F., & Thorpe, C. T. (2021). *Scale development: Theory and applications*. Sage publications.

Dewalska-Opitek, A., Bilińska, K., & Cierpiał-Wolan, M. (2022). The application of the soft modeling method to evaluate changes in customer behavior towards e-commerce in the time of the global COVID-19 pandemic. *Risks*, *10*(3), 62. https://doi.org/10.3390/risks10030062

Di Crosta, A., Ceccato, I., Marchetti, D., La Malva, P., Maiella, R., Cannito, L., Cipi, M., Mammarella, N., Palumbo, R., Verrocchio, M. C., Palumbo, R., & Di Domenico, A. (2021). Psychological factors and consumer behavior during the COVID-19 pandemic. *PLOS ONE*, *16*(8). https://doi.org/10.1371/journal.pone.0256095

Dijkstra, T. K., & Henseler, J. (2015). Consistent Partial Least Squares Path Modeling. *MIS Quarterly*, *39*(2), 297–316. https://doi.org/10.25300/misq/2015/39.2.02

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, phone, mail, and mixed-mode surveys: The tailored design method*. John Wiley & Sons.

Duckett, L. J. (2021). Quantitative research excellence: Study design and reliable and valid measurement of variables. *Journal of Human Lactation*, *37*(3), 456–463. https://doi.org/10.1177/08903344211019285

Dwivedi, Y. K., Williams, M. D., Lal, B., & Mustafee, N. (2010). An analysis of literature on consumer adoption and diffusion of information system/information technology/information and communication technology. *International Journal of Electronic Government Research*, *6*(4), 58–73. https://doi.org/10.4018/jegr.2010100105

Eastin, M. S. (2002). Diffusion of e-commerce: An analysis of the adoption of four e-commerce activities. *Telematics and Informatics*, *19*(3), 251–267. https://doi.org/10.1016/s0736-5853(01)00005-3

Eger, L., Komárková, L., Egerová, D., & Mičík, M. (2021). The effect of COVID-19 on consumer shopping behaviour: Generational Cohort Perspective. *Journal of Retailing and Consumer Services*, *61*, 102542. https://doi.org/10.1016/j.jretconser.2021.102542

Elliott, A. C., & Woodward, W. A. (2007). *Statistical analysis quick reference guidebook: With SPSS examples*. Sage.

Etikan, I. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1. https://doi.org/10.11648/j.ajtas.20160501.11

Fairlie, R., & Fossen, F. M. (2021). The early impacts of the COVID-19 pandemic on business sales. *Small Business Economics*, *58*(4), 1853–1864. https://doi.org/10.1007/s11187-021-00479-4

Farrell, D., Wheat, C., Ward, M., & Relihan, L. (2020). The early impact of COVID-19 on local commerce: Changes in spend across neighborhoods and online. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3647298

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, Behavioral, and Biomedical Sciences. *Behavior Research Methods*, *39*(2), 175–191. https://doi.org/10.3758/bf03193146

Feng, Y., Zhang, J., Feng, L., & Zhu, G. (2022). Benefit from a high store visiting cost in an omnichannel with bops. *Transportation Research Part E: Logistics and Transportation Review*, *166*, 102904. https://doi.org/10.1016/j.tre.2022.102904

Fertik, M. (2019). *How to avoid being victim to the retail apocalypse*. Forbes. https://www.forbes.com/sites/michaelfertik/2019/05/02/how-to-avoid-being-victim-to-the-retail-apocalypse/

Field, A. (2013). *Discovering statistics using IBM SPSS statistics.* sage.

Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics* (5th ed.). SAGE Publications.

Flavián, C., Gurrea, R., & Orús, C. (2020). Combining channels to make smart purchases: The role of webrooming and showrooming. *Journal of Retailing and Consumer Services*, *52*, 101923. https://doi.org/10.1016/j.jretconser.2019.101923

Flight, R. L., Allaway, A. W., Kim, W.-M., & D'Souza, G. (2011). A study of perceived innovation characteristics across cultures and stages of diffusion. *Journal of Marketing Theory and Practice*, *19*(1), 109–126. https://doi.org/10.2753/mtp1069-6679190107

Forrester Research (2014) *Customer desires vs. retailer capabilities: Minding the omni-channel commerce gap.* Technical report, Forrester Research, McLean, VA.

Freeman, R. B., Nakamura, A. O., Nakamura, L. I., Prud'homme, M., & Pyman, A. (2011). Wal-Mart Innovation and Productivity: A viewpoint. *Canadian Journal of Economics/Revue Canadienne d'économique*, *44*(2), 486–508. https://doi.org/10.1111/j.1540-5982.2011.01641.x

Fugard, A. J. B., & Potts, H. W. W. (2015). Supporting thinking on sample sizes for thematic analyses: A quantitative tool. *International Journal of Social Research Methodology*, *18*(6), 669–684. https://doi.org/10.1080/13645579.2015.1005453

Funk, S., Gilad, E., Watkins, C., & Jansen, V. A. (2009). The spread of awareness and its impact on pandemic outbreaks. *Proceedings of the National Academy of Sciences*, *106*(16), 6872–6877. https://doi.org/10.1073/pnas.0810762106

Galipoglu, E., Kotzab, H., Teller, C., Yumurtaci Hüseyinoglu, I. Ö., & Pöppelbuß, J. (2018). Omni-Channel Retailing Research – State of the art and Intellectual Foundation. *International Journal of Physical Distribution & Logistics Management*, *48*(4), 365–390. https://doi.org/10.1108/ijpdlm-10-2016-0292

Gallino, S., & Moreno, A. (2014). Integration of online and offline channels in retail: The impact of sharing reliable inventory availability information. *Management Science*, *60*(6), 1434–1451. https://doi.org/10.1287/mnsc.2014.1951

Galoni, C., Carpenter, G. S., & Rao, H. (2020). Disgusted and afraid: Consumer choices under the threat of contagious disease. *Journal of Consumer Research*, *47*(3), 373–392. https://doi.org/10.1093/jcr/ucaa025

Gao, F., & Su, X. (2017). Omnichannel retail operations with buy-online-and-pick-up-in-store. *Management Science*, *63*(8), 2478–2492. https://doi.org/10.1287/mnsc.2016.2473

Gao, X., Shi, X., Guo, H., & Liu, Y. (2020). To buy or not buy food online: The impact of the COVID-19 pandemic on the adoption of e-commerce in China. *PLOS ONE*, *15*(8). https://doi.org/10.1371/journal.pone.0237900

Gardner, C., & Amoroso, D. L. (2004). Development of an instrument to measure the acceptance of Internet technology by consumers. *37th Annual Hawaii International Conference on System Sciences, 2004. Proceedings of The*. https://doi.org/10.1109/hicss.2004.1265623

Gauri, D. K., Jindal, R. P., Ratchford, B., Fox, E., Bhatnagar, A., Pandey, A., Navallo, J. R., Fogarty, J., Carr, S., & Howerton, E. (2021). Evolution of retail formats: Past, present, and future. *Journal of Retailing*, *97*(1), 42–61. https://doi.org/10.1016/j.jretai.2020.11.002

Gerea, C., Gonzalez-Lopez, F., & Herskovic, V. (2021). Omnichannel Customer Experience and Management: An integrative review and research agenda. *Sustainability*, *13*(5), 2824. https://doi.org/10.3390/su13052824

Gerrard, P., & Barton Cunningham, J. (2003). The diffusion of Internet banking among Singapore consumers. *International Journal of Bank Marketing*, *21*(1), 16–28. https://doi.org/10.1108/02652320310457776

Gerrard, P., Barton Cunningham, J., & Devlin, J. F. (2006). Why consumers are not using Internet banking: A qualitative study. *Journal of Services Marketing*, *20*(3), 160–168. https://doi.org/10.1108/08876040610665616

Green, S. B., & Salkind, N. J. (2010). *Using SPSS for Windows and Macintosh: Analyzing and understanding data.* Prentice Hall Press.

Grewal, D., Motyka, S., & Levy, M. (2018). The evolution and future of retailing and retailing education. *Journal of Marketing Education*, *40*(1), 85–93. https://doi.org/10.1177/0273475318755838

Grewal, D., Roggeveen, A. L., & Nordfält, J. (2017). The future of retailing. *Journal of Retailing*, *93*(1), 1–6. https://doi.org/10.1016/j.jretai.2016.12.008

Griethuijsen, R. A. L. F. van, Eijck, M. W. van, Haste, H., Brok, P. J. den, Skinner, N. C., Mansour, N., Gencer, A. S., & BouJaoude, S. B. (2015, January 1). *Global patterns in students' views of Science and interest in science*. Eindhoven University of Technology research portal. https://research.tue.nl/en/publications/global-patterns-in-students-views-of-science-and-interest-in-scie

Guthrie, C., Fosso-Wamba, S., & Arnaud, J. B. (2021). Online consumer resilience during a pandemic: An exploratory study of e-commerce behavior before, during and after a

COVID-19 lockdown. *Journal of Retailing and Consumer Services*, *61*, 102570. https://doi.org/10.1016/j.jretconser.2021.102570

Hagberg, J., Sundstrom, M., & Egels-Zandén, N. (2016). The digitalization of retailing: An exploratory framework. *International Journal of Retail & Distribution Management*, *44*(7), 694–712. https://doi.org/10.1108/ijrdm-09-2015-0140

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate Data Analysis* (8th ed.). Cengage Learning.

Hansen, D. S. (2021). *The Effects of Consumer Perceptions on Retailers' Brick-and-Mortar and E-Commerce Sales Segments* (Order No. 28410553). Available from ProQuest Dissertations & Theses Global. (2518154995). https://links.franklin.edu/login?url=https://www.proquest.com/dissertations-theses/effects-consumer-perceptions-on-retailers-brick/docview/2518154995/se-2

Hausman, A., & Stock, J. R. (2003). Adoption and implementation of technological innovations within long-term relationships. *Journal of Business Research*, *56*(8), 681–686. https://doi.org/10.1016/s0148-2963(01)00313-7

Hazra, A., & Gogtay, N. (2016). Biostatistics series module 5: Determining sample size. *Indian Journal of Dermatology*, *61*(5), 496. https://doi.org/10.4103/0019-5154.190119

Herhausen, D., Binder, J., Schoegel, M., & Herrmann, A. (2015). Integrating bricks with clicks: Retailer-level and channel-level outcomes of online–offline channel integration. *Journal of Retailing*, *91*(2), 309–325. https://doi.org/10.1016/j.jretai.2014.12.009

Herrera, D. M. and S. (2020, April 30). Amazon's Sales Jump as Coronavirus Prompts Surge in Online Shopping. *Wall Street Journal*. https://www.wsj.com/articles/amazons-sales-jump-as-coronavirus-prompts-surge-in-online-shopping-11588278740

Herrero-Crespo, A., Viejo-Fernández, N., Collado-Agudo, J., & Sanzo Pérez, M. J. (2021). Webrooming or showrooming, that is the question: Explaining omnichannel behavioural intention through the technology acceptance model and exploratory behaviour. *Journal of Fashion Marketing and Management: An International Journal*, *26*(3), 401–419. https://doi.org/10.1108/jfmm-05-2020-0091

Hesham, F., Riadh, H., & Sihem, N. K. (2021). What have we learned about the effects of the COVID-19 pandemic on consumer behavior? *Sustainability*, *13*(8), 4304. https://doi.org/10.3390/su13084304

Holbrook, J. D., Pilliod, D. S., Arkle, R. S., Rachlow, J. L., Vierling, K. T., & Wiest, M. M. (2016). Transition of vegetation states positively affects harvester ants in the Great Basin, United States. *Rangeland Ecology & Management*, *69*(6), 449–456. https://doi.org/10.1016/j.rama.2016.06.009

Horner, S. H., Solheim, C. A., Zuiker, V. S., & Ballard, J. (2016). The link between childhood overindulgence and adult financial behaviors. *Journal of Financial Counseling and Planning*, *27*(1), 80–91. https://doi.org/10.1891/1052-3073.27.1.80

Huang, M., & Jin, D. (2020). Impact of buy-online-and-return-in-store service on Omnichannel Retailing: A Supply Chain Competitive Perspective. *Electronic Commerce Research and Applications*, *41*, 100977. https://doi.org/10.1016/j.elerap.2020.100977

Huang, W.-J. (2021). Literature Review on Omnichannel Retailing. *Expert Journal of Marketing*, *9*(1). https://marketing.expertjournals.com/23446773-901/

Hübner, A., Wollenburg, J., & Holzapfel, A. (2016). Retail Logistics in the transition from multi-channel to Omni-Channel. *International Journal of Physical Distribution & Logistics Management*, *46*(6/7), 562–583. https://doi.org/10.1108/ijpdlm-08-2015-0179

Hwang, E. H., Nageswaran, L., & Cho, S.-H. (2020). Impact of COVID-19 on Omnichannel Retail: Drivers of online sales during pandemic. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3657827

Jain, A., Darbari, J. D., Govindan, K., Ramanathan, U., & Jha, P. C. (2022). Biobjective optimization model for store selection for Bops Service in Omni-channel retail chain. *IEEE Transactions on Engineering Management*, 1–16. https://doi.org/10.1109/tem.2022.3194986

Jain, P., Jain, K., & Jain, P. K. (2016). ELECTRONICğCOMMERCE AND ITS GLOBAL IMPACT. *Innovare Journal of Engineering & Technology*, *4*(3), 1–6.

Jamieson, S. (2004). Likert scales: How to (ab)use them. *Medical Education*, *38*(12), 1217–1218. https://doi.org/10.1111/j.1365-2929.2004.02012.x

Jamshidi, D., & Kazemi, F. (2020). Innovation diffusion theory and customers' behavioral intention for Islamic Credit Card. *Journal of Islamic Marketing*, *11*(6), 1245–1275. https://doi.org/10.1108/jima-02-2018-0039

Jayasingh, S., Girija, T., & Arunkumar, S. (2022). Determinants of omnichannel shopping intention for Sporting Goods. *Sustainability*, *14*(21), 14109. https://doi.org/10.3390/su142114109

Jeong, Y., & Jung, M. J. (2016). Application and interpretation of hierarchical multiple regression. *Orthopaedic Nursing*, *35*(5), 338–341. https://doi.org/10.1097/nor.0000000000000279

Jeyaraj, A., Rottman, J. W., & Lacity, M. C. (2006). A review of the predictors, linkages, and biases in it innovation adoption research. *Journal of Information Technology*, *21*(1), 1–23. https://doi.org/10.1057/palgrave.jit.2000056

Jocevski, M., Arvidsson, N., Miragliotta, G., Ghezzi, A., & Mangiaracina, R. (2019). Transitions towards Omni-channel retailing strategies: A business model perspective. *International Journal of Retail & Distribution Management*, *47*(2), 78–93. https://doi.org/10.1108/ijrdm-08-2018-0176

Juaneda-Ayensa, E., Mosquera, A., & Sierra Murillo, Y. (2016). Omnichannel Customer behavior: Key drivers of technology acceptance and use and their effects on purchase intention. *Frontiers in Psychology*, *7*. https://doi.org/10.3389/fpsyg.2016.01117

Kaabachi, S., & Obeid, H. (2016). Determinants of islamic banking adoption in Tunisia: Empirical analysis. *International Journal of Bank Marketing*, *34*(7), 1069–1091. https://doi.org/10.1108/ijbm-02-2015-0020

Kapoor, K., Dwivedi, Y. K., & Williams, M. D. (2013). Role of innovation attributes in explaining the adoption intention for the interbank mobile payment service in an Indian context. *Grand Successes and Failures in IT. Public and Private Sectors*, 203–220. https://doi.org/10.1007/978-3-642-38862-0_13

Karahanna, Agarwal, & Angst. (2006). Reconceptualizing compatibility beliefs in technology acceptance research. *MIS Quarterly*, *30*(4), 781. https://doi.org/10.2307/25148754

Katz, Elihu, and Paul F. Lazarsfeld (1955), Personal Influence: The Part Played by People in the Flow of Mass Communications, New York, Free Press.Katzman,

Kazancoglu, I., & Aydin, H. (2018). An investigation of consumers' purchase intentions towards Omni-Channel Shopping. *International Journal of Retail & Distribution Management*, *46*(10), 959–976. https://doi.org/10.1108/ijrdm-04-2018-0074

Keels, G. N. (2021). *Brick-and-Mortar Retail Stores Disappearing in the Digital Age: Marketing Strategies for Sustainability* (Order No. 28644559). Available from ProQuest

Dissertations & Theses Global. (2566243420). https://links.franklin.edu/login?url=https://www-proquest-com.links.franklin.edu/dissertations-theses/brick-mortar-retail-stores-disappearing-digital/docview/2566243420/se-2?accountid=38107

Kennedy, J. E. (2015). Beware of inferential errors and low power with Bayesian analyses: Power analysis is needed for confirmatory research. *Journal of Parapsychology, 79*(1), 53-64. Retrieved from http://www.rhine.org/whatwedo/journal-of-parapsychology.html

Khayru, R. K. (2021). Opinions about consumer behavior during the COVID-19 pandemic. *Journal of Social Science Studies (JOS3)*, *1*(1), 31–36. https://doi.org/10.56348/jos3.v1i1.6

Khode, R., Shenoi, P., Kubde, R., Makade, C., Wadekar, K., & Khode, P. (2017). Evaluation of effect of different disposable infection control barriers on light intensity of light-curing unit and microhardness of composite - an in vitro study. *Journal of Conservative Dentistry*, *20*(3), 180. https://doi.org/10.4103/jcd.jcd_171_16

Kim, C., & Galliers, R. D. (2004). Toward a diffusion model for Internet systems. *Internet Research*, *14*(2), 155–166. https://doi.org/10.1108/10662240410530862

Kim, D.-Y., Park, J., & Morrison, A. M. (2008). A model of Traveller acceptance of Mobile Technology. *International Journal of Tourism Research*, *10*(5), 393–407. https://doi.org/10.1002/jtr.669

Kim, E., Park, M.-C., & Lee, J. (2017). Determinants of the intention to use buy-online, pickup in-store (bops): The moderating effects of situational factors and product type. *Telematics and Informatics*, *34*(8), 1721–1735. https://doi.org/10.1016/j.tele.2017.08.006

Kim, J., & Lennon, S. J. (2013). Effects of reputation and website quality on online consumers' emotion, perceived risk and purchase intention. *Journal of Research in Interactive Marketing*, *7*(1), 33–56. https://doi.org/10.1108/17505931311316734

Kim, K., Han, S.-L., Jang, Y.-Y., & Shin, Y.-C. (2020). The effects of the antecedents of "buy-online-pick-up-in-store" service on consumer's BOPS Choice Behaviour. *Sustainability*, *12*(23), 9989. https://doi.org/10.3390/su12239989

Kim, S., Connerton, T. P., & Park, C. (2022). Transforming the automotive retail: Drivers for customers' Omnichannel Bops (buy online & pick up in store) behavior. *Journal of Business Research, 139*, 411–425. https://doi.org/10.1016/j.jbusres.2021.09.070

Kirk, C. P., & Rifkin, L. S. (2020). I'll trade you diamonds for toilet paper: Consumer reacting, coping and adapting behaviors in the COVID-19 pandemic. *Journal of Business Research*, *117*, 124–131. https://doi.org/10.1016/j.jbusres.2020.05.028

Kiwanuka, A. (2015). Acceptance process: The missing link between UTAUT and Diffusion of Innovation Theory. *American Journal of Information Systems, 3*(2), 440–444. https://doi.org/10.12691/ajis-3-2-3

Kokho Sit, J., Hoang, A., & Inversini, A. (2018). Showrooming and retail opportunities: A qualitative investigation via a consumer-experience lens. *Journal of Retailing and Consumer Services*, *40*, 163–174. https://doi.org/10.1016/j.jretconser.2017.10.004

Koksal M. S (2013). A comprehensive research design for experimental studies in science education. *İlköğretim Online (elektronik), 12*(3), 628 - 634. http://abakus.inonu.edu.tr/xmlui/handle/123456789/17534?show=full

Konuş, U., Neslin, S. A., & Verhoef, P. C. (2014). The effect of search channel elimination on purchase incidence, order size and channel choice. *International Journal of Research in Marketing*, *31*(1), 49–64. https://doi.org/10.1016/j.ijresmar.2013.07.008

Kotrlik, J. W. K. J. W., & Higgins, C. C. H. C. C. (2001). Organizational research: Determining appropriate sample size in survey research appropriate sample size in survey research. *Information technology, learning, and performance journal*, *19*(1), 43. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.opalco.com/wp-content/uploads/2014/10/Reading-Sample-Size1.pdf

Kraemer, M. U., Yang, C.-H., Gutierrez, B., Wu, C.-H., Klein, B., Pigott, D. M., du Plessis, L., Faria, N. R., Li, R., Hanage, W. P., Brownstein, J. S., Layan, M., Vespignani, A., Tian, H., Dye, C., Pybus, O. G., & Scarpino, S. V. (2020). The effect of human mobility and control measures on the COVID-19 pandemic in China. *Science*, *368*(6490), 493–497. https://doi.org/10.1126/science.abb4218

Kumar, V., Rajan, B., Gupta, S., & Pozza, I. D. (2019). Customer engagement in service. *Journal of the Academy of Marketing Science*, *47*(1), 138–160. https://doi.org/10.1007/s11747-017-0565-2

Lakens, D. (2022). Sample size justification. *Collabra: Psychology*, *8*(1). https://doi.org/10.1525/collabra.33267

Lakens, D., & Caldwell, A. R. (2021). Simulation-based power analysis for factorial analysis of variance designs. *Advances in Methods and Practices in Psychological Science*, *4*(1), 251524592095150. https://doi.org/10.1177/2515245920951503

LaRose, R., & Atkin, D. (1992). Audiotext and the re-invention of the telephone as a mass medium. *Journalism Quarterly*, *69*(2), 413–421. https://doi.org/10.1177/107769909206900215

Larson, L. R., & Shin, H. (2018). Fear during natural disaster: Its impact on perceptions of shopping convenience and shopping behavior. *Services Marketing Quarterly*, *39*(4), 293–309. https://doi.org/10.1080/15332969.2018.1514795

Lazaris, C., Vrechopoulos, A., Doukidis, G. and Fraidaki, A., 2015. Mobile apps for omnichannel retailing: Revealing the emerging showroom phenomenon. *MCIS 2015 Proceedings*. 12. https://aisel.aisnet.org/mcis2015/12

Lazaris, C., Vrechopoulos, A., Fraidaki, K., & Doukidis, G. (2014, June). Exploring the "Omnichannel" shopper behaviour. In *AMA SERVSIG, International Service Research Conference* (pp. 13-15).

Lee, C. (2019). The underrepresentation of women and minorities in clinical trials: A research topic in need of attention. *Bioethics Research Notes, 31*(2), 47-52. DOI: 10.1080/23294515.2019.1672887

Lee, Y. H., Hsieh, Y. C., & Hsu, C. N. (2011). Adding innovation diffusion theory to the technology acceptance model: Supporting employees' intentions to use e-learning systems. *Journal of Educational Technology & Society*, *14*(4), 124-137. http://www.jstor.org/stable/jeductechsoci.14.4.124

Lee, Y., Choi, S., & Field, J. M. (2020). Development and validation of the pick-up service quality scale of the buy-online-pick-up-in-store service. *Operations Management Research*, *13*(3–4), 218–232. https://doi.org/10.1007/s12063-020-00161-0

Leech, N., Barrett, K., & Morgan, G., A. (2005*). SPSS for intermediate statistics: Use and interpretation* (2nd ed.). London: Lawrence Erlbaum Associates.

Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. *Journal of Marketing*, *80*(6), 69–96. https://doi.org/10.1509/jm.15.0420

Levitt, H. M. (2019). Reporting mixed methods research: Bridging reporting standards. Reporting Qualitative Research in Psychology: *How to Meet APA Style Journal Article Reporting Standards.,* 111–133. https://doi.org/10.1037/0000121-009

Li, Q., Wang, Q., & Song, P. (2022). Do customers always adopt buy-online-and-pick-up-in-store service? consideration of location-based store density in omni-channel retailing. *Journal of Retailing and Consumer Services*, *68*, 103072. https://doi.org/10.1016/j.jretconser.2022.103072

Liao, C., Palvia, P., & Chen, J.-L. (2009). Information technology adoption behavior life cycle: Toward a technology continuance theory (TCT). *International Journal of Information Management*, *29*(4), 309–320. https://doi.org/10.1016/j.ijinfomgt.2009.03.004

Liao, H.-L., & Lu, H.-P. (2008). The role of experience and innovation characteristics in the adoption and continued use of e-learning websites. *Computers & Education*, *51*(4), 1405–1416. https://doi.org/10.1016/j.compedu.2007.11.006

Limayem, Hirt, & Cheung. (2007). How habit limits the predictive power of intention: The case of information systems continuance. *MIS Quarterly*, *31*(4), 705. https://doi.org/10.2307/25148817

Lipi, A., Khales, S., Akter, S., & Khales, L. (1991). *Title: The impact of COVID-19 on consumer consumption. How does COVID-19 affect consumers' product preferences? A country*

comparison between The. https://www.diva-portal.org/smash/get/diva2:1560635/FULLTEXT01.pdf

Lyytinen, K., & Damsgaard, J. (2001). What's wrong with the Diffusion of Innovation theory? *Diffusing Software Product and Process Innovations*, 173–190. https://doi.org/10.1007/978-0-387-35404-0_11

Mack, P., & Rogers, E. M. (1985). Diffusion of Innovations. *Technology and Culture*, *26*(1), 109. https://doi.org/10.2307/3104547

Mallat, N. (2007). Exploring consumer adoption of mobile payments – a qualitative study. *The Journal of Strategic Information Systems*, *16*(4), 413–432. https://doi.org/10.1016/j.jsis.2007.08.001

Mascia, M. B., & Mills, M. (2018). When conservation goes viral: The diffusion of innovative biodiversity conservation policies and practices. *Conservation Letters*, *11*(3). https://doi.org/10.1111/conl.12442

Mason, A., Narcum, J., & Mason, K. (2020). Changes in consumer decision-making resulting from the COVID-19 pandemic. *Journal of Customer Behaviour*. https://doi.org/10.1362/147539220x16003502334181

McCloskey, D. W. (2006). The importance of ease of use, usefulness, and trust to online consumers. *Journal of Organizational and End User Computing*, *18*(3), 47–65. https://doi.org/10.4018/joeuc.2006070103

McKean, E. (Ed.) (2005). *The new Oxford American dictionary (*2nd ed.). New York, NY: Oxford University.

Megías, A., Cándido, A., Maldonado, A., & Catena, A. (2018). Neural correlates of risk perception as a function of risk level: An approach to the study of risk through a daily life

task. *Neuropsychologia*, *119*, 464–473. https://doi.org/10.1016/j.neuropsychologia.2018.09.012

Melero, I., Sese, F. J., & Verhoef, P. C. (2016). Recasting the Customer Experience in Today's Omni-channel Environment. *Universia Business Review, 50*, 18–37. https://doi-org.links.franklin.edu/10.3232/UBR.2016.V13.N2.01

Mertler, C. A. (2019). *Introduction to educational research.* Los Angeles: SAGE.

Meuleman, B., Loosveldt, G., & Emonds, V. (2015). Regression analysis: Assumptions and Diagnostics. *The SAGE Handbook of Regression Analysis and Causal Inference*, 83–110. https://doi.org/10.4135/9781446288146.n5

Meuter, M. L., Bitner, M. J., Ostrom, A. L., & Brown, S. W. (2005). Choosing among alternative service delivery modes: An investigation of customer trial of self-service technologies. *Journal of Marketing*, *69*(2), 61–83. https://doi.org/10.1509/jmkg.69.2.61.60759

Michael Olatokun, W., & Joyce Igbinedion, L. (2009). The adoption of Automatic Teller Machines in Nigeria: An application of the theory of Diffusion of Innovation. *Issues in Informing Science and Information Technology*, *6*, 373–393. https://doi.org/10.28945/1066

Milioti, C., Pramatari, K., & Kelepouri, I. (2020). Modelling consumers' acceptance for the Click and Collect Service. *Journal of Retailing and Consumer Services*, *56*, 102149. https://doi.org/10.1016/j.jretconser.2020.102149

Miranda, C. O. (2022). *Consumer Behavioral Changes in Online Shopping for Essential Goods During the Coronavirus Pandemic* (Order No. 29068508). Available from ProQuest Dissertations & Theses Global. (2653216126).

https://links.franklin.edu/login?url=https://www.proquest.com/dissertations-theses/consumer-behavioral-changes-online-shopping/docview/2653216126/se-2

Mishra, R., Singh, R. K., & Koles, B. (2020). Consumer decision-making in Omnichannel Retailing: Literature Review and Future Research Agenda. *International Journal of Consumer Studies*, *45*(2), 147–174. https://doi.org/10.1111/ijcs.12617

Moon, J.-W., & Kim, Y.-G. (2001). Extending the tam for a world-wide-web context. *Information & Management*, *38*(4), 217–230. https://doi.org/10.1016/s0378-7206(00)00061-6

Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information Systems Research*, *2*(3), 192–222. https://doi.org/10.1287/isre.2.3.192

Moore, N. (2013). *How to Do Research*. https://doi.org/10.29085/9781856049825

Morgan, G. B., & Renbarger, R. L. (2018). *The SAGE encyclopedia of educational research, measurement, and evaluation.* Thousand Oaks: SAGE Publications, Inc.

Morse, K. F., Fine, P. A., & Friedlander, K. J. (2021). Creativity and leisure during COVID-19: Examining the relationship between leisure activities, motivations, and psychological well-being. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/fpsyg.2021.609967

Mosquera, A., Olarte-Pascual, C., Juaneda Ayensa, E., & Sierra Murillo, Y. (2018). The role of technology in an omnichannel Physical Store. *Spanish Journal of Marketing - ESIC*, *22*(1), 63–82. https://doi.org/10.1108/sjme-03-2018-008

Mudjahidin, Fatika, H. L., Aristio, A. P., & Junaedi, L. (2022). Intention to use buy online-pickup in store of Coffee Shop. *Procedia Computer Science*, *197*, 591–598. https://doi.org/10.1016/j.procs.2021.12.177

News, A. B. C. (2020). *Here are the states that have shut down nonessential businesses*. ABC News. https://abcnews.go.com/Health/states-shut-essential-businesses-map/story?id=69770806

Nørskov, S., Chrysochou, P., & Milenkova, M. (2015). The impact of product innovation attributes on brand equity. *Journal of Consumer Marketing*, *32*(4), 245–254. https://doi.org/10.1108/jcm-10-2014-1198

NWA Council. (n. d). *Northwest Arkansas*. Northwest Arkansas Council. https://nwacouncil.org/

Oh, L.-B., Teo, H.-H., & Sambamurthy, V. (2012). The effects of retail channel integration through the use of information technologies on firm performance. *Journal of Operations Management*, *30*(5), 368–381. https://doi.org/10.1016/j.jom.2012.03.001

Oliveira, T., & Martins, M. F. (2011). Literature review of information technology adoption models at firm level. *Electronic Journal of Information Systems Evaluation, 14*(1), 110–121. https://search-ebscohost-com.links.franklin.edu/login.aspx?direct=true&db=bth&AN=65267826&site=eds-live.

Ondrus, J., & Pigneur, Y. (2006). Towards a holistic analysis of mobile payments: A multiple perspectives approach. *Electronic Commerce Research and Applications*, *5*(3), 246–257. https://doi.org/10.1016/j.elerap.2005.09.003

Özbük, R. M., Ünal, D. A., & Oktay, B. (2020). Consumer behavior in omnichannel retailing. *Managing Customer Experiences in an Omnichannel World: Melody of Online and Offline Environments in the Customer Journey*, 75–95. https://doi.org/10.1108/978-1-80043-388-520201008

Pannell, D. J., Marshall, G. R., Barr, N., Curtis, A., Vanclay, F., & Wilkinson, R. (2006). Understanding and promoting adoption of conservation practices by rural landholders.

Australian Journal of Experimental Agriculture, *46*(11), 1407. https://doi.org/10.1071/ea05037

Pantano, E. (2014). Innovation drivers in retail industry. *International Journal of Information Management*, *34*(3), 344–350. https://doi.org/10.1016/j.ijinfomgt.2014.03.002

Pantano, E. (2014). Innovation Management in retailing: From Consumer Perspective to corporate strategy. *Journal of Retailing and Consumer Services*, *21*(5), 825–826. https://doi.org/10.1016/j.jretconser.2014.02.017

Pantano, E., & Viassone, M. (2014). Demand pull and technology push perspective in technology-based innovations for the points of sale: The retailers evaluation. *Journal of Retailing and Consumer Services*, *21*(1), 43–47. https://doi.org/10.1016/j.jretconser.2013.06.007

Pantano, E., Pizzi, G., Scarpi, D., & Dennis, C. (2020). Competing during a pandemic? retailers' ups and downs during the COVID-19 Outbreak. *Journal of Business Research*, *116*, 209–213. https://doi.org/10.1016/j.jbusres.2020.05.036

Pentina, I., & Hasty, R. W. (2009). Effects of multichannel coordination and E-Commerce Outsourcing on online retail performance. *Journal of Marketing Channels*, *16*(4), 359–374. https://doi.org/10.1080/10466690903188021

Perse, E. M., & Courtright, J. A. (1993). Normative images of communication media mass and interpersonal channels in the new media environment. *Human Communication Research*, *19*(4), 485–503. https://doi.org/10.1111/j.1468-2958.1993.tb00310.x

Piotrowicz, W., & Cuthbertson, R. (2014). Introduction to the special issue information technology in retail: Toward omnichannel retailing. *International Journal of Electronic Commerce*, *18*(4), 5–16. https://doi.org/10.2753/jec1086-4415180400

Polit, D. F., & Beck, C. T. (2008). *Nursing research: Generating and assessing evidence for nursing practice.* Lippincott Williams & Wilkins.

Prakash, A., & Sharma, A. (2016). Dimensions of point of purchase factors in impulsive buying of women's skincare cosmetics in India. *Journal of Business and Retail Management Research, 10*(2).

PYMNTS.com. (2020). *The great reopening: Shifting preferences - may 23, 2020.* Pymnts.com. https://www.pymnts.com/study/the-great-reopening-shifting-preferences-may-2020/

Ram, S., & Sheth, J. N. (1989). Consumer resistance to innovations: The marketing problem and its solutions. *Journal of Consumer Marketing*, *6*(2), 5–14. https://doi.org/10.1108/eum0000000002542

Riaz, H., Baig, U., Meidute-Kavaliauskiene, I., & Ahmed, H. (2022). Factors effecting Omnichannel Customer experience: Evidence from fashion retail. *Information*, *13*(1), 12. https://doi.org/10.3390/info13010012

Ridzuan, F., & Zainon, W. M. (2019). A review on data cleansing methods for Big Data. *Procedia Computer Science*, *161*, 731–738. https://doi.org/10.1016/j.procs.2019.11.177

Rogers, E.M. (1962). *Diffusions of Innovations.* New York: Free Press of Glencoe.

Rogers, E.M. (1995). *Diffusion of Innovations,* 4th edition. New York: Free Press.

Rogers, E.M. (2003). *Diffusion of Innovations,* 5th edition. New York: Free Press.

Rogers, E.M., Daly, H., Wu, T., 1980. *The diffusion of personal computers*. Institute for Communication Research Report, Stanford University, Palo Alto, CA.

Rostami, K., Sharif, F., Zarshenas, L., Ebadi, A., & Farbood, A. (2018). Health needs in patients suffering from chronic back pain: A qualitative study. *Anesthesiology and Pain Medicine*, *In Press*(In Press). https://doi.org/10.5812/aapm.85244

Ryan, B., & Gross, N. C. (1943). The diffusion of hybrid seed corn in two Iowa communities. *Rural sociology*, *8*(1), 15. https://www.proquest.com/openview/7de2b2276a089fe888071663de12b6a0/1?pq-origsite=gscholar&cbl=1817355

Sahin, I. (2006). Detailed review of Rogers' Diffusion of Innovations Theory and educational technology-related studies based on Rogers' Theory. *Turkish Online Journal of Educational Technology, 5*(2), 14–23. https://search-ebscohost-com.links.franklin.edu/login.aspx?direct=true&db=eric&AN=EJ1102473&site=ehost-live.

Salem, M. A., & Nor, K. M. (2020). The effect of COVID-19 on consumer behaviour in Saudi Arabia: Switching from brick and mortar stores to E-Commerce. *International Journal of Scientific & Technology Research*, *9*(07), 15-28. ISSN 2277-8616

Salvietti, G., Ziliani, C., Teller, C., Ieva, M., & Ranfagni, S. (2022). Omnichannel retailing and post-pandemic recovery: Building a research agenda. *International Journal of Retail & Distribution Management*, *50*(8/9), 1156–1181. https://doi.org/10.1108/ijrdm-10-2021-0485

Sanni, S. A., Ngah, Z. A., Karim, N. H., Abdullah, N., & Waheed, M. (2013). Using the Diffusion of Innovation concept to explain the factors that contribute to the adoption rate of e-journal publishing. *Serials Review*, *39*(4), 250–257. https://doi.org/10.1080/00987913.2013.10766406

Savastano, M., Bellini, F., D'Ascenzo, F., & De Marco, M. (2019). Technology adoption for the integration of online–offline purchasing. *International Journal of Retail & Distribution Management*, *47*(5), 474–492. https://doi.org/10.1108/ijrdm-12-2018-0270

Sayyida, S., Hartini, S., Gunawan, S., & Husin, S. N. (2021). The impact of the COVID-19 pandemic on Retail Consumer Behavior. *Aptisi Transactions on Management (ATM)*, *5*(1), 79–88. https://doi.org/10.33050/atm.v5i1.1497

Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill-Building Approach* (7th ed.). Wiley.

Serkan Akturk, M., Ketzenberg, M., & Heim, G. R. (2018). Assessing impacts of introducing ship-to-store service on sales and returns in Omnichannel Retailing: A Data Analytics study. *Journal of Operations Management*, *61*(1), 15–45. https://doi.org/10.1016/j.jom.2018.06.004

Shao, X. (2021). Omnichannel retail move in a dual-channel supply chain. *European Journal of Operational Research*, *294*(3), 936–950. https://doi.org/10.1016/j.ejor.2020.12.008

Shaw, N. (2020). *Why your retail business needs to deploy BOPS*. Business 2 Community. https://www.business2community.com/consumer-marketing/why-your-retail-business-needs-to-deploy-BOPS-02347326

Shaw, N, Eschenbrenner, B., & Baier, D. (2022). Online shopping continuance after COVID-19: A Comparison of Canada, Germany and the United States. *Journal of Retailing and Consumer Services*, *69*, 103100. https://doi.org/10.1016/j.jretconser.2022.103100

Shen, X.-L., Li, Y.-J., Sun, Y., & Wang, N. (2018). Channel integration quality, perceived fluency and omnichannel service usage: The moderating roles of internal and external usage experience. *Decision Support Systems*, *109*, 61–73. https://doi.org/10.1016/j.dss.2018.01.006

Sheth, J. (2020). Impact of COVID-19 on consumer behavior: Will the old habits return or die? *Journal of Business Research*, *117*, 280–283. https://doi.org/10.1016/j.jbusres.2020.05.059

Shi, S., Wang, Y., Chen, X., & Zhang, Q. (2020). Conceptualization of omnichannel customer experience and its impact on shopping intention: A mixed-method approach. *International Journal of Information Management*, *50*, 325–336. https://doi.org/10.1016/j.ijinfomgt.2019.09.001

Silva, S. C., Martins, C. C., & Sousa, J. M. (2018). Omnichannel Approach: Factors Affecting Consumer Acceptance. *Journal of Marketing Channels*, *25*(1–2), 73–84. https://doi.org/10.1080/1046669x.2019.1647910

Simone, A., & Sabbadin, E. (2017). The New Paradigm of the Omnichannel Retailing: Key drivers, new challenges and potential outcomes resulting from the adoption of an omnichannel approach. *International Journal of Business and Management*, *13*(1), 85. https://doi.org/10.5539/ijbm.v13n1p85

Smith, J. K., Williams, R. L., & Johnson, M. L. (2020). The implications of convenience sampling and its impact on external validity and generalizability in research studies. *Journal of Applied Research Methods, 15*(3), 112-126. DOI: 10.1177/1548215420920398

Snyder, J. (2019). Data Cleansing: An Omission from Data Analytics Coursework. *Information Systems Education Journal*, *17*(6), 22–29.

Spradley, M. M. (2022). *Business Model Innovation: Sensemaking in Organizations During the COVID-19 Pandemic* (Order No. 28969561). Available from ProQuest Dissertations & Theses Global. (2641605594).

https://links.franklin.edu/login?url=https://www.proquest.com/dissertations-theses/business-model-innovation-sensemaking/docview/2641605594/se-2

Strömberg, H., Rexfelt, O., Karlsson, I. C. M., & Sochor, J. (2016). Trying on change – Trialability as a change moderator for sustainable travel behaviour. *Travel Behaviour and Society*, *4*(4), 60–68. https://doi.org/10.1016/j.tbs.2016.01.002

Swanson, R. A. (2005). The process of framing research in organizations. *Research in organizations: Foundations and methods of inquiry*, 11-26.

Swanson, R. A., & Holton, E. A. (2005). *Research in organizations: Foundations and methods of inquiry*. San Francisco, CA: BK

Syahadiyanti, L., & Subriadi, A. P. (2018). Diffusion of Innovation theory utilization online financial transaction: Literature review. *International Journal of Economics and Financial Issues*, *8*(3), 219.

Taber, K. S. (2018). The use of Cronbach's alpha when developing and Reporting Research Instruments in science education. *Research in Science Education*, *48*(6), 1273–1296. https://doi.org/10.1007/s11165-016-9602-2

Taherdoost, H. (2017). *Determining Sample Size; How to Calculate Survey Sample Size*. Papers.ssrn.com. https://ssrn.com/abstract=3224205

Taherdoost, H. (2017). Determining sample size; how to calculate survey sample size. *International Journal of Economics and Management Systems*, *2*.

Taherdoost, H. (2017.). *Determining sample size; how to calculate survey sample size - SSRN*. SSRN. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3224205

Taherdoost, H. (2019). What is the best response scale for survey and questionnaire design; review of different lengths of rating scale/attitude scale/Likert scale. *Hamed Taherdoost*, 1-10.

Taherdoost, H. (2016). Sampling methods in research methodology; how to choose a sampling technique for research. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3205035

Tan, M., & Teo, T. (2000). Factors influencing the adoption of Internet banking. *Journal of the Association for Information Systems*, *1*(1), 1–44. https://doi.org/10.17705/1jais.00005

Tang, X., Collier, D., & Witt, A. (2018). Qualitative study on Chinese students' perception of U.S. University Life. *Journal of International Students*, *8*(1).

Taylor, J. B. (2022). *The Effect of the COVID-19 Pandemic on Online Shopping at a Traditional Ground Retailer: Walmart, Inc from the Customer Perspective* (Order No. 29208042). Available from ProQuest Dissertations & Theses Global. (2668387812). https://links.franklin.edu/login?url=https://www.proquest.com/dissertations-theses/effect-COVID-19-pandemic-on-online-shopping-at/docview/2668387812/se-2

Taylor, S., & Todd, P. A. (1995). Understanding Information Technology Usage: A test of competing models. *Information Systems Research*, *6*(2), 144–176. https://doi.org/10.1287/isre.6.2.144

Thambiah, S., Cyril Eze, U., Santhapparaj, A. J., & Arumugam, K. (2010). Customers' perception on Islamic Retail Banking: A Comparative analysis between the urban and rural regions of Malaysia. *International Journal of Business and Management*, *6*(1). https://doi.org/10.5539/ijbm.v6n1p187

Thompson, D. (2017, April 25). *What in the world is causing the retail meltdown of 2017?*. The Atlantic. https://www.theatlantic.com/business/archive/2017/04/retail-meltdown-of-2017/522384/

Tobin, B. (n.d.). *Walmart's experiment with pickup-and-delivery stores appears to be over as the last two prepare to close*. Business Insider. https://www.businessinsider.com/walmart-closing-last-two-pickup-delivery-only-stores-bentonville-lincolnwood-2023-2

Toews, D. (2003). The new tarde. *Theory, Culture & Society*, *20*(5), 81–98. https://doi.org/10.1177/02632764030205004

Torry, D. (2020, May 18). *Coronavirus lockdowns trigger rapid drop in retail sales, factory output*. The Wall Street Journal. https://www.wsj.com/articles/coronavirus-lockdowns-trigger-record-spending-drops-on-shopping-eating-out-11589535000

Torry, H. (2020, May 18). *Coronavirus lockdowns trigger rapid drop in retail sales, factory output*. The Wall Street Journal. https://www.wsj.com/articles/coronavirus-lockdowns-trigger-record-spending-drops-on-shopping-eating-out-11589535000

Townsend, M. (2022). *Online shopping post COVID misread by Amazon (AMZN), others. Bloomberg.com*. Bloomberg.com. https://www.bloomberg.com/news/features/2022-10-11/amazon-amzn-wayfair-w-online-shopping-bets-aren-t-paying-off#xj4y7vzkg

Truong, T. H. (2020). The drivers of Omni-Channel Shopping intention: A case study for fashion retailing sector in Danang, Vietnam. *Journal of Asian Business and Economic Studies*, *28*(2), 143–159. https://doi.org/10.1108/jabes-05-2020-0053

Unglesbee, B., Howland, D., and Vembar, K. (2020). *The impact of the coronavirus on retail*. Retail Dive. https://www.Unglesbee et al., 2020.com/news/the-impact-of-the-coronavirus-on-retail/573522/

VALENTE, T. W., & ROGERS, E. M. (1995). The origins and development of the Diffusion of Innovations paradigm as an example of scientific growth. *Science Communication*, *16*(3), 242–273. https://doi.org/10.1177/1075547095016003002

Vallerand, R. J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. *Advances in Experimental Social Psychology*, 271–360. https://doi.org/10.1016/s0065-2601(08)60019-2

Van Braak, J. (2001). Individual characteristics influencing teachers' class use of computers. *Journal of Educational Computing Research*, *25*(2), 141–157. https://doi.org/10.2190/81yv-cgmu-5hpm-04eg

Van, B. T. (2020*). The Relationship Between Customer Relationship Management, Employee Retention, and Revenue* (Order No. 28152810). Available from ProQuest Dissertations & Theses Global. (2469052393). https://links.franklin.edu/login?url=https://www.proquest.com/dissertations-theses/relationship-between-customer-management-employee/docview/2469052393/se-2

Vázquez-Martínez, U. J., Morales-Mediano, J., & Leal-Rodríguez, A. L. (2021). The impact of the COVID-19 crisis on consumer purchasing motivation and behavior. *European Research on Management and Business Economics*, *27*(3), 100166. https://doi.org/10.1016/j.iedeen.2021.100166

Venkatesh, Morris, Davis, & Davis. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, *27*(3), 425. https://doi.org/10.2307/30036540

Verhoef, P. C. (2021). Omni-Channel Retailing: Some reflections. *Journal of Strategic Marketing*, *29*(7), 608–616. https://doi.org/10.1080/0965254x.2021.1892163

Verhoef, P. C., & Langerak, F. (2001). Possible determinants of consumers' adoption of electronic grocery shopping in the Netherlands. *Journal of Retailing and Consumer Services*, *8*(5), 275–285. https://doi.org/10.1016/s0969-6989(00)00033-3

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Qi Dong, J., Fabian, N., & Haenlein, M. (2021). Digital Transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, *122*, 889–901. https://doi.org/10.1016/j.jbusres.2019.09.022

Verhoef, P. C., Kannan, P. K., & Inman, J. J. (2015). From multi-channel retailing to Omni-channel retailing. *Journal of Retailing*, *91*(2), 174–181. https://doi.org/10.1016/j.jretai.2015.02.005

Verhoef, P. C., Stephen, A. T., Kannan, P. K., Luo, X., Abhishek, V., Andrews, M., Bart, Y., Datta, H., Fong, N., Hoffman, D. L., Hu, M. M., Novak, T., Rand, W., & Zhang, Y. (2017). Consumer connectivity in a complex, technology-enabled, and mobile-oriented world with Smart Products. *Journal of Interactive Marketing*, *40*(1), 1–8. https://doi.org/10.1016/j.intmar.2017.06.001

Verhoef, P. C., van Ittersum, K., Kannan, P. K., & Inman, J. (2022). Omnichannel Retailing: A consumer perspective. *APA Handbook of Consumer Psychology.*, 649–672. https://doi.org/10.1037/0000262-029

Verhoef, P. C., van Ittersum, K., Kannan, P. K., & Inman, J. (2022). Omnichannel retailing: A consumer perspective.

Vinerean, S., Budac, C., Baltador, L. A., & Dabija, D.-C. (2022). Assessing the effects of the COVID-19 pandemic on M-commerce adoption: An adapted UTAUT2 approach. *Electronics*, *11*(8), 1269. https://doi.org/10.3390/electronics11081269

Walton, C. (2020, April 3). *The domino effect: 5 ways coronavirus will forever change retail*. Forbes. https://www.forbes.com/sites/christopherwalton/2020/04/01/the-domino-effect-5-ways-coronavirus-will-forever-change-retail/

Wang, E., An, N., Gao, Z., Kiprop, E., & Geng, X. (2020). Consumer Food Stockpiling Behavior and willingness to pay for food reserves in COVID-19. *Food Security*, *12*(4), 739–747. https://doi.org/10.1007/s12571-020-01092-1

Wang, X., Yuen, K. F., Wong, Y. D., & Teo, C. C. (2018). An innovation diffusion perspective of e-consumers' initial adoption of self-collection service via Automated Parcel Station. *The International Journal of Logistics Management*, *29*(1), 237–260. https://doi.org/10.1108/ijlm-12-2016-0302

Weigel, F. K., Hazen, B. T., Cegielski, C. G., & Hall, D. J. (2014). Diffusion of Innovations and the theory of planned behavior in Information Systems Research: A metaanalysis. *Communications of the Association for Information Systems*, *34*. https://doi.org/10.17705/1cais.03431

Williams, B. R. (2014). *The digitization of business: The effect of e-commerce strategies on revenue growth in retail companies*. ProQuest Dissertations & Theses Global. (1548306757). https://links.franklin.edu/login?url=https://www-proquest-com.links.franklin.edu/docview/1548306757?accountid=38107

Wu, X., & Chen, Z. (2022). Fulfillment scheduling for buy-online-pickup-in-store orders. *Production and Operations Management*, *31*(7), 2982–3003. https://doi.org/10.1111/poms.13734

Xu, X., & Jackson, J. E. (2019). Examining customer channel selection intention in the Omni-Channel Retail Environment. *International Journal of Production Economics*, *208*, 434–445. https://doi.org/10.1016/j.ijpe.2018.12.009

Yan, S., Hua, Z., & Bian, Y. (2020). Does retailer benefit from implementing "online-to-store" channel in a competitive market? *IEEE Transactions on Engineering Management*, *67*(2), 496–512. https://doi.org/10.1109/tem.2018.2878235

Yuen, K. F., Wang, X., Ng, L. T., & Wong, Y. D. (2018). An investigation of customers' intention to use self-collection services for last-mile delivery. *Transport Policy*, *66*, 1–8. https://doi.org/10.1016/j.tranpol.2018.03.001

Yunus, M. (2014). Diffusion of Innovation, consumer attitudes and intentions to use mobile banking. *In information and knowledge management (4*)10, pp. 12-18.

Yusof, M. Y. R. B. (1999). *Islamic banking: adoption of a service innovation (Doctoral dissertation).* http://hdl.handle.net/10356/42509

Zhou, T., Lu, Y., & Wang, B. (2010). Integrating TTF and Utaut to explain mobile banking user adoption. *Computers in Human Behavior*, *26*(4), 760–767. https://doi.org/10.1016/j.chb.2010.01.013

Zhuang, M., Fang, E., & Cai, F. (2020). How does omnichannel marketing enable businesses to cope with COVID-19? evidence from a large-scale field experiment. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3640730

Zikmund, W. G. (n.d.). *Business research methods*. Google Books. https://books.google.com/books/about/Business_Research_Methods.html?id=kPQJAQAAMAAJ

Zwanka, R. J., & Buff, C. (2020). COVID-19 generation: A conceptual framework of the consumer behavioral shifts to be caused by the COVID-19 pandemic. *Journal of International Consumer Marketing*, *33*(1), 58–67. https://doi.org/10.1080/08961530.2020.1771646

Appendix A Consent letter

FRANKLIN UNIVERSITY

Consent to Participate in a Research Study

Henry Akwa-Mensah, Principal Investigator

Project Title: Impact of COVID Pandemic on Retail Omnichannel Technology

You are invited to take part in a research study about how Covid-19 has impacted consumer behavior with respect to the use of omnichannel capabilities such as “Buy online Pickup at the Store.” If you volunteer to participate in the research study, you will be asked to complete a computer survey that asks you to use a 10-point scale to answer questions about your buy online, pickup at the store behaviors, preferences, and opinions. We expect this survey to take about five minutes and require you to complete all questions to receive compensation.

Study investigators will not be able to link your survey responses to you. While your responses are completely anonymous to the research team, the third party Centiment will know that you participated in the research to compensate you for your participation.

If you are 18 years of age or older, understand the statements above, and will consent to participate in the study, click on the "I Agree" button to begin the survey. If you do not wish to participate in this study, please close your browser now.

Appendix B Survey Questionnaire

For the following questions, express your agreement or disagreement with the statement using a 10-point scale where 1 means "not at all" and 10 means "definitely" or "all the time."

Relative Advantage Survey

RAI: Buy-Online-Pickup-at-the-Store provides quicker access to the purchases that I need to make.

RA2: Buy-Online-Pickup-at-the-Store provides flexibility.

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

RA3: Buy-Online-Pickup-at-the-Store is convenient.

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

RA4: Using buy-Online-Pickup-at-the-Store saves me time.

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

Complexity Survey

CPI: Buy-Online-Pickup-at-the-Store is complex to do.

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

CP2: Buy-Online-Pickup-at-the-Store is easy to learn.

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

CP3: Easy-to-use retail services are important to me.

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

CP4: Using buy-Online-Pickup-at-the-Store application is easy for me.

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

Compatibility Survey

CT1: Buy-Online-Pickup-at-the-Store is compatible with my shopping needs.

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

CT2: Buy-Online-Pickup-at-the-Store fits well with the type of shopping I do.

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

CT3: Buy-Online-Pickup-at-the-Store fits well with my lifestyle.

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

CT4: Buy-Online-Pickup-at-the-Store applications are compatible with my computer.

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

Trialability Survey

T1: Retailers that offer buy-Online-Pickup-at-the-Store are familiar to me.

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

T2: The Buy-Online-Pickup-at-the-Store application is easy to use (available to use).

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

T3: Buy-Online-Pickup-at-the-Store doesn't require much effort (to get familiar with).

Not at all Definitely or All the time

1	2	3	4	5	6	7	8	9	10

T4: During the pandemic, I had adequate opportunities to try the buy-Online-Pickup-at-the-Store.

Not at all Definitely or All the time

1	2	3	4	5	6	7	8	9	10

Observability Survey

01: Being seen as a user of buy-Online-Pickup-at-the-Store is good for my image.

Not at all Definitely or All the time

1	2	3	4	5	6	7	8	9	10

02: My friends don't use buy-Online-Pickup-at-the-Store.

Not at all Definitely or All the time

1	2	3	4	5	6	7	8	9	10

03: I have seen others use buy-Online-Pickup-at-the-Store.

Not at all Definitely or All the time

1	2	3	4	5	6	7	8	9	10

04: People I know use buy-Online-Pickup-at-the-Store.

Not at all Definitely or All the time

1	2	3	4	5	6	7	8	9	10

Behavioral Intention Survey

BI1: I will likely continue to use buy-Online-Pickup-at-the-Store.

Not at all Definitely or All the time

1	2	3	4	5	6	7	8	9	10

BI2: My willingness to use buy-Online-Pickup-at-the-Store is high.

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

BI3: I intend to continue to use buy-Online-Pickup-at-the-Store.

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

BI4: The likelihood that I will continue using buy-Online-Pickup-at-the-Store is high.

Not at all									Definitely or All the time
1	2	3	4	5	6	7	8	9	10

Appendix C: Centiment Research Letter

centiment

To Whom It May Concern,

A faculty member and/or student at your institution wishes to conduct a survey using Centiment LLC in order to support their research. This letter is being sent to you because the student has indicated that they need a letter from Centiment LLC granting them permission to use our services to support their research. Please accept this letter as evidence of such permission.

Students are allowed to conduct research via Centiment's platform as long as they abide by our Terms of Use.

Centiment LLC is a data collection platform through which researchers can connect with respondents in order to deploy surveys through an online interface. We work with researchers across all industries, including academia, to provide top quality data for a myriad of purposes including students using our online tools to conduct academic research.

If you have any questions about this letter, please don't hesitate to reach out to support@centiment.co with the name of the student who requested to use our services.

Sincerely,

Centiment LLC

Appendix D: IRB Exempt Approval Letter

FRANKLIN UNIVERSITY

Date: February 23, 2023
PI: Henry Akwa-Mensah
Department: Ross College of Business, Doctoral Studies
Re: Initial - IRB-2022-96
Impact of COVID Pandemic on Retail Omnichannel Technology Adoption

The Franklin Institutional Review Board has rendered the decision below for *Impact of COVID Pandemic on Retail Omnichannel Technology Adoption*.

Decision: Exempt
Category: Category 2.(i). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording).
The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.
Category 2.(ii). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording).
Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation.

Findings: The PI is conducting surveys to learn more about how Covid-19 has impacted consumer behavior regarding omnichannel capabilities such as "Buy Online Pickup at the Store."

The IRB determination of exemption means:

- You must conduct the research as proposed in the Exempt application, including obtaining and documenting (signed) informed consent if stated in your application or if required by the IRB.
- Any modification of this research should be submitted to the IRB prior to implementation to determine if the study still meets federal exemption criteria.
- You are responsible for notifying the IRB Office with any problems or complaints about the research.

Students, please note the following:

- You must use only the approved consent and assent forms (as applicable).
- Prior to graduation, you will need to complete a Closure submission for the IRB Office to close the study. To do this, you will need to open your study in Cayuse and look for the blue '+ New Submission' tab on the righthand side of your screen. From there, click on 'Closure' and complete the submission.

Any modifications to the approved study or study closures must be submitted for review through Cayuse IRB. All approval letters and study documents are located within the Study Details in Cayuse IRB.

You may contact the IRB Office at 614-947-6037 or irb@franklin.edu with any questions.

Sincerely,

Franklin Institutional Review Board

Appendix E Permission to use survey instrument.

SPRINGER NATURE LICENSE
TERMS AND CONDITIONS

Jul 27, 2023

This Agreement between Franklin University -- Henry Akwa-Mensah ("You") and Springer Nature ("Springer Nature") consists of your license details and the terms and conditions provided by Springer Nature and Copyright Clearance Center.

The publisher has provided special terms related to this request that can be found at the end of the Publisher's Terms and Conditions.

License Number	5595911324829
License date	Jul 25, 2023
Licensed Content Publisher	Springer Nature
Licensed Content Publication	Springer eBook
Licensed Content Title	Role of Innovation Attributes in Explaining the Adoption Intention for the Interbank Mobile Payment Service in an Indian Context
Licensed Content Author	Kawaljeet Kapoor, Yogesh K. Dwivedi, Michael D. Williams
Licensed Content Date	Jan 1, 2013
Type of Use	Thesis/Dissertation
Requestor type	academic/university or research institute
Format	print and electronic

Portion	Text extract
Number of text extracts	100
Will you be translating?	no
Circulation/distribution	1 - 29
Author of this Springer Nature content	no
Title	Impact of COVID Pandemic on Omnichannel Adoption
Institution name	Franklin University
Expected presentation date	Jul 2023
Portions	Table 1. Constructs-Questions Mapping
Requestor Location	Franklin University 1601 Aniston rd CENTERTON, AR 72719 United States Attn: Franklin University
Billing Type	Invoice
Billing Address	Franklin University 1601 Aniston rd CENTERTON, AR 72719 United States Attn: Franklin University
Total	0.00 USD

Terms and Conditions

Curriculum Vitae (Optional)