Omni-Channel Shopping Methods

In recent years, fashion brands and retailers have been advancing rapidly to provide U.S. consumers more seamless omni-channel shopping experiences. The pandemic has further accelerated the growth of omni-channel shopping. This study aimed to explore the effects of channel integration in six aspects (i.e., promotion, product and price, transaction information, information access, order fulfillment, and customer service) on the U.S. consumers' intentions to use three omni-channel shopping methods: buy online pick-up in-store (BOPI), buy online curbside pickup (BOCP), and buy in-store home delivery (BIHD). We proposed a mediation model to test the effects through consumer perceived values (hedonic value, utilitarian value), perceived risk, and perceived behavioral control. Furthermore, this study explored the moderating effect of perceived COVID-19 vulnerability on the relationships between consumers' internal evaluations of channel integration and their shopping method selection intentions. A total of 516 eligible responses were gathered through a survey of U.S. consumers. Multiple regressions were applied to test the hypotheses. Six types of channel integration showed significant effects on the U.S. consumers' internal evaluations, which in turn influence their intentions to use certain types of omni-channel shopping methods. Overall, the proposed model exhibits a satisfactory explanatory power.

Keywords: omni-channel retailing ; fashion ; shopping method selection ; COVID-19 ; U.S. consumers

1. Introduction

The outbreak of COVID-19 in 2020 has changed consumers' shopping behaviors and brought retailers challenges in many ways. Before the hit of the pandemic, traditional retailers relying on brick-and-mortar channel had already suffered intense competition from emerging online retailers. In 2019, over 9300 retail stores in the U.S. were closed because they failed to change or embrace new retail strategies to meet new consumer needs, adapt digital innovation, and compete with online retailers [1]. In the meantime, share of e-commerce transactions by total U.S. retail transactions has grown from 4.2% in 2010 to 15.7% in 2020 [2]. Now, the pandemic is further forcing traditional retailers to adopt new retail strategies to stay competitive or just survive the retail disaster. Many scholars and market research companies predicted that, with the impact of the COVID-19 pandemic, online and digital formats would become the dominant shopping channels for consumers to obtain products and services and this trend would continue even in the era of post pandemic [3] [4].

A majority of fashion retailers have severely suffered from the COVID-19 pandemic because they had to temporarily close their physical stores in compliance with the government order because fashion products were not categorized as "essential" goods and services like food, pharmacy products, etc. According to Business Insider, twenty-eight major retailers filed for bankruptcy or liquidation in 2020 due to the impact of COVID-19, among which, twelve were fashion companies owning famous brands such as J. Crew, Men's Wearhouse, and Ann Taylor, or department stores such as Neiman Marcus and JC Penny [5]. Taylor [6] indicated there has been a prominent movement in the retail industry that retailers are shifting their investment from the physical store channel to digital channel and channel integration. For example, Zara's parent company, Inditex, recently announced that they planned to close around 1200 stores in 2020 and 2021, and believed that the revenue loss due to store closures would be offset by online sales and enhanced inventory management through effective channel integration [7].

Many marketers and researchers asserted that flexible marketing strategies, such as omnichannel retailing, can help retailers deal with the challenges they face during the pandemic and the uncertainties post the pandemic [4][6][8][9][10]. Prior to the pandemic, many retailers hesitated to implement omni-channel retailing services (e.g., purchase online pick-up in-store or subsidy pickup) because of the concern on potential decline in store traffic, but the pandemic has accelerated retailers' adoption of these new shopping methods [6]. Beck and Rygl [11] defined omni-channel retailing as "the set of activities involved in selling merchandise or services through all widespread channels, whereby the customer can trigger full channel interaction and/or the retailer controls full channel integration" (p. 175). With the continuous advancement of digital and communication technologies, more retailers are becoming capable of providing additional channels besides

physical store channel for consumers to explore such as online websites and mobile apps [12][13]. The core of omni-channel retailing is to provide consumers seamless and synchronized shopping experiences [12][13][14][15][16]. To reach the goal, a true channel integration is essential [16][17][18][19]. Therefore, omni-channel retailing is a business strategy offered by retailers for consumers to gain seamless shopping experiences, and consumers have the freedom to choose various shopping methods and channels at each stage of the shopping process from searching information to obtaining products [10].

Although the advantages of omni-channel retailing and the need of channel integration have been repeatedly emphasized in prior studies, there lacks research devoted to theoretical advancement and empirical investigation in how channel integration may affect consumers' selection of omni-channel shopping methods [8][10][11]. In particular, our knowledge on the COVID-19 impact on consumer behavior towards omni-channel shopping is very limited [8]. Therefore, this study aimed to fill the gap in the literature by identifying the effects of channel integration in six aspects (i.e., promotion, product and price, transaction information, information access, order fulfillment, and customer service) on the U.S. consumers' intentions to use three omni-channel shopping methods: *buy online pick-up in-store (BOPI), buy online curbside pickup (BOCP),* and *buy in-store home delivery (BIHD)*. We proposed a mediation model to test the effects through consumer perceived values (i.e., hedonic value, utilitarian value), perceived risk, and perceived behavioral control. Moreover, this study explored the moderating effect of consumer perceived COVID-19 vulnerability on the relationships between consumers' internal evaluations of channel integration and their shopping method selection intentions. The findings from this study provide the valuable insights to fashion retailers on the determinants of consumers' selection of omni-channel shopping methods and the impact of the COVID-19 pandemic. This information may guide the corporate strategic investment in omni-channel retailing and contribute to maximizing the benefits of channel integration.

2. Theoretical Background and Hypotheses Development

2.1. Omni-Channel Shopping Methods

Fashion retail industry mainly has three types of channels: store channel, online channel, and other non-store channel [12]. Online channel contains two subcategories: (1) traditional internet channel via computer or laptop, and (2) mobile channel via smartphone or tablet. Online channel also has a fast-growing subset, named social commerce, defined as e-commerce activities and transactions through social media sites [20]. Thus, retail online channels could be identified through two dimensions, hardware (e.g., computer, smartphone) and software (e.g., social media sites, brands' or retailers' websites). Other non-store channels include catalog, direct selling, and automated machines (e.g., vending machines). Large retailers often sell their products through various channels and allow consumers to flexibly choose the appropriate channel meeting their needs. Moreover, consumers can use multiple channels throughout their shopping process from information search, order placement, order pick-up, to post-purchase activities.

Bell [21] proposed an information and fulfillment matrix of four shopping modes: (1) traditional retail (obtain information and product offline), (2) shopping and delivery hybrid (obtain information online and pickup product offline), (3) online retail plus showrooms (obtain information offline and deliver product to home), and (4) pure-play e-commerce (obtain information online and deliver product to home). The first and the fourth kinds are single-channel shopping modes where product information and fulfillment happens within either offline or online channel, while the second and the third shopping modes are examples of integrated omni-channel retailing, which combines both online and offline channels.

In 2013, Macy's launched an omni-channel program named "click-and-collect", which integrates its digital wallet into both the Macy's app and website [22]. No matter where and how consumers shops, either in Macy's store or online, they have access to the consistent services or benefits Macy's offers, such as the retailer's loyalty program, special coupons, and the assorted payment methods [22]. This omni-channel strategy successfully meets the needs of Macy's target consumers who have busy lifestyles and look for simple and convenient shopping methods. Researchers defined this "click and collect" service offered by many retailers (e.g., Walmart, Target, Kohl's, Nordstrom, etc.) as buy-online-pickup-in-store (BOPS) or reserve-online-pickup-and-pay-in-store (ROPS) [23][24][25]. BOPS and ROPS belong to the same category in Bell's [21] matrix, which is shopping and delivery hybrid, although BOPS is a more widely known shopping mode in the retail field. A recent study discovered that BOPS fulfillment operation could improve retail supply chain's performance when it is offered under a centralized scenario (retailer and manufacturer work together to serve an integrated supply chain) [26].

Under the pandemic, retailers began offering many contactless shopping options to reduce the number of customers inside of stores and maintain social distance. Instead of having customers pick up their orders inside of stores, retailers slightly modified BOPS and began offering a similar omni-channel shopping method, called buy online pickup at curbside

(BOPC) or just curbside pickup [27][28]. Shoppers could park their cars at designated curbside pickup area and shop assistants would walk outside to put their orders in the trunk or backseat. Business Insider recently highlighted sixteen retailers' BOPS and BOPC options, which include famous fashion retailers such as Bloomingdale's, JCPenney, L.L.Bean, Macy's, Neiman Marcus, Nordstrom, and REI [29]. According to 2021 Omnichannel Report by Digital Commerce 360, at the beginning of 2021, 68.7% of U.S. retailers provided BOPS while 50.7% of retail chains provided BOPC [30].

Many Once-Online-Only retailers (e.g., Amazon, Warby Parker, Adore Me, Bonobos, and BaubleBar) opened physical stores because they realized that opening physical stores or showrooms can help increase sales across all channels and decrease the operational costs of shipping products that often do not meet customers' expectations [31]. Temporary showrooms ("pop-up" shops or movable stores) are anticipated to have the similar advantages of boosting awareness and total demand [21]. An example for physical stores with minimum inventory but high level of customer service is "Nordstrom Local". Those shops are identified as neighborhood service hubs with no dedicated inventory but offering a variety of services in small spaces with around 3000 sq.ft [32]. When a physical store serves the role as a showroom, customers often choose the shopping mode of buy in-store home delivery (BIHD) [33], which is consistent with the shopping mode, reserve-online-pickup-and-pay-in-store (ROPS) that Bell [21] identified.

2.2. S-O-R Model

To investigate fashion consumers' decision-making process for choosing omni-channel shopping methods, this study employed the Stimulus-Organism-Response (S-O-R) model by Mehrabiana and Russel [34]. This model successfully linked the three dimensions together: environmental incentive (stimulus), individuals' internal states (organism), and consequent behavior (response) (see **Figure 1**). In other words, external factors or catalysts impact subjects' actions through intermediaries of individuals' judgements or intuitions. Thus, many marketing researchers were able to use this model to explore the impact of retailing environment on consumers' actions through mediators of consumers' internal evaluations such as consumer empowerment, perceived values, perceived risk, trust, etc. [35][36][37][38].
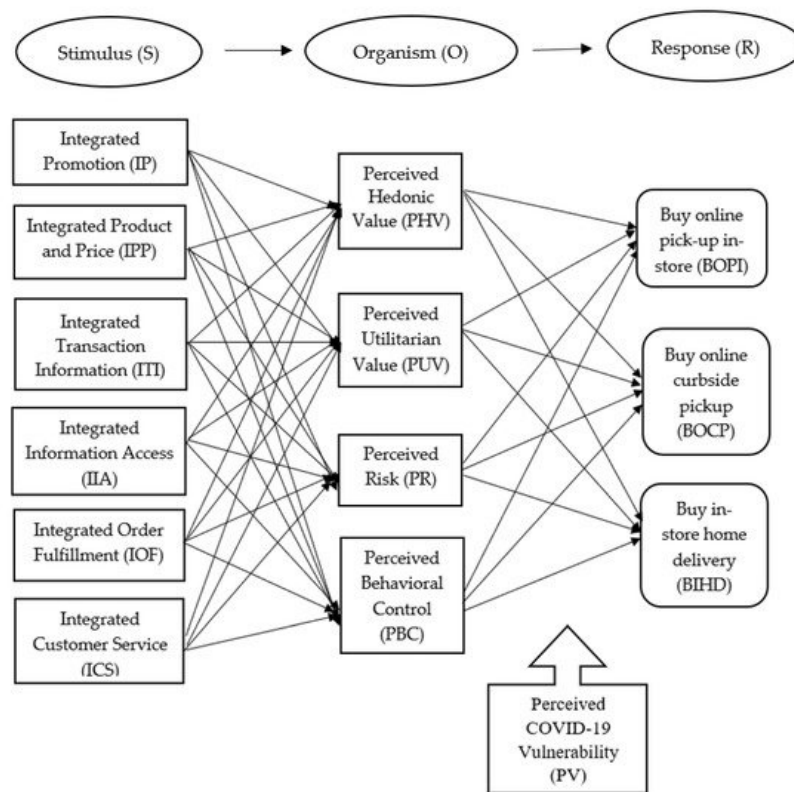

Figure 1. Proposed research model.

In the retail field, researchers often considered the stimulus as marketing-associated influences (e.g., sensory marketing and service characteristics) [37][39] or environmental attributes (e.g., store environment and website attributes) [40][41]. Previous studies have explored the effects of channel availability or channel integration as the stimuli on consumers' cognitive and affective states [38][42][43]. For instance, by following the S-O-R model, researchers found that channel integration could significantly affect consumers' empowerment, which in turn enhanced their trust and satisfaction as well as increased their patronage intention [35]. This study chose to investigate the influence of channel integration as the stimulus on consumer selection of omni-channel shopping methods as the response through the mediators of consumer internal evaluations as the organism.

Consumers' internal states (organism) mainly include two aspects: pleasure and arousal [44]. Pleasure–displeasure is a condition of feeling that is either positive or negative, while arousal is a feeling condition with a certain degree of awakeness going from slumber to furious excitement. According to Bakker et al. [45], pleasure could be considered as affect while arousal could be considered as cognition. Prior studies demonstrated that cognitive and affective internal evaluations could significantly mediate the effect of environmental stimuli on consumers' responses [45][46][47][48][49]. Researchers also found that consumer perceived value is a key organism factor bridging the environmental stimuli and consumers' responses [36][50][51]. Consumer perceived value (both hedonic and utilitarian value) along with perceived risk and perceived behavioral control (PBC) were repeatedly reported as the significant factors influencing consumers' adoption behaviors toward new technologies or new shopping channels [52][53][54].

Regarding the response, this study examined consumers' selection intentions toward three omni-channel shopping methods: buy online pick-up in-store (BOPI), buy online curbside pickup (BOCP), and buy in-store home delivery (BIHD). In addition to these shopping methods, prior studies also discussed buy-online-return-in-store and reserve-online-pickup-in-store [55][56]. Current research focused on the stage of purchasing and receiving products during the shopping process. Since the returning and the reserving methods were not closely related to the interest of this study, they were excluded from the options of responses. Therefore, this study included and tested BOPI, BOCP, and BIHD as the three responses in the S-O-R model.

2.3. Stimulus: Channel Integration

Channel integration is one of the key success factors of omni-channel retailing implementation. For retailers being able to effectively apply the omni-channel strategy, they should integrate all channels seamlessly, and the integration needs to be implemented at all levels of logistics and marketing, and even internal business operations [57][58][59][60]. When online and offline channels are successfully integrated, businesses are able to maxmize the benefits of each channel, reduce cannibalization, and promote synergy, and as a result, businesses would reach better performance [61][62]. Channel integration is essential for retailers to provide the seamless shopping experience in the omni-channel environment [35][63][64]. According to Sousa and Voss [64], channel integration quality was assessed through two dimensions: channel–service configuration and integrated interactions. Channel–service configuration is defined as how good service quality is for each channel as well as the quality of the combined services across different channels [64]. In other words, channel–service configuration is the scope of channel choice and flexibility of the combinations of different services and channels. Integrated interactions involve the consistency and standardization of both content (e.g., response to a question or information across different channels) and process (e.g., process features such as service's experience, appearance, waiting times, and employee power levels).

Instead of identifying channel integration from the perspective of service quality like Sousa and Voss did [64], more recently, Oh, Teo and Sambamurthy [62] defined channel integration by analyzing all possible retail activities in three regular phases of the buying procedure: pre-purchase, purchase, and post-purchase. They proposed six dimensions of retail channel integration (i.e., integrated promotion, integrated transaction information management, integrated product and pricing information management, integrated information access, integrated order fulfillment, and integrated customer service). After testing the impact of these dimensions on multichannel retailers' performance, Oh et al. [62] discovered that channel integration enabled by information technologies improves firms' competencies in delivering both existing resources and future innovative contributions, which in turn enhances the overall performance of the firms. Lately, Zhang et al. [35] refined the six channel integration dimensions to accommodate the emerging omni-channel retail trend and from the perspective of consumers.

In line with prior researchers' definitions and measurement of channel integration, this study considered channel integration as the extent to which a retailer synchronizes all available channels and all levels of the organization to boost synergy for the business and offer consumers seamless and flexible shopping experiences. The dimensions of retail channel integration focused in this study are: (1) integrated promotion (IP), (2) integrated product and price (IPP), (3) integrated transaction information (ITI), (4) integrated information access (IIA), (5) integrated order fulfillment (IOF), and (6) integrated customer service (ICS). **Table 1** summarizes the definitions of the six dimensions as below. These definitions were used to guide the development of the constructs of the six channel integration dimensions.

Table 1. Channel integration dimensions in the omni-channel environment.

Dimensions	Definitions
Integrated Promotion (IP)	**The degree to which a consumer can find one channel's advertisements or promotional information in another channel.**

Dimensions	Definitions
Integrated Product and Price (IPP)	The degree to which a consumer has access to consistent product and price information across all available channels.
Integrated Transaction Information (ITI)	The degree to which a consumer can use the same account to manage all the purchase records in all available channels.
Integrated Information Access (IIA)	The degree to which a consumer has consistent access to the information across all available channels.
Integrated Order Fulfillment (IOF)	The degree to which a consumer can finish the whole shopping process (order placement, payment, delivery, and return) through one or more channels.
Integrated Customer Service (ICS)	The degree to which a consumer has access to standard and consistent customer service across all available channels, including after-sales services.

2.4. Organism: Consumer Perceived Value

Perceived value evolves from the means-end theory, which demonstrates that values consumers perceive are the ends from the products' attributes representing the means [65]. Prior studies discovered that perceived value was the key for understanding consumer behavior in the marketplace [66][67]. Thaler [68] defined value as a trade-off which is the net benefits of the difference between consumers' perceived gains and losses. Zeithaml [69] further developed the meaning of perceived value as "the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given" (p. 14). As stated by Babin et al. [70], perceived shopping value mainly contains two dimensions: hedonic and utilitarian values. When consumers make purchase decisions, they take all the decision factors (both hedonic and utilitarian values) into consideration and mentally calculate if it is worth the price and cost of the deal [71]. Current research examined the impact of both hedonic and utilitarian values as the mediators connecting channel integration and consumers' shopping method selection intentions.

Prior studies discovered that consumers chose to use multi-channel or omni-channel integration while shopping because they perceived both hedonic and utilitarian values of this type of shopping method [72][73][74][75]. Pragmatic consumers liked to use multi-channel integration because they perceived utilitarian values (e.g., money, time, and effort saving) of this shopping process while shopping beginners are more likely to shop for the hedonic reasons (e.g., enjoyment and pleasure) than multi-channel shopping experts [72]. For example, researchers found significant relationships between online promotion and both functional and emotional value among e-commerce shoppers in China [51]. Price promotions often stimulate consumers' shopping intentions because consumers often perceive functional value in a deal for its cheaper price [76]. Moreover, consumers also get excited and pleasant (perceive hedonic value) when seeing and noticing a favorite product is on sale or promotion. When promotion information is provided in an omni-channel environment, the effect might be even stronger because integrated channels could offer consumers more convenient and fun shopping experiences [73][77][78].

Prior findings showed that cross-channel integration dimensions (e.g., information consistency, freedom of channel selection, strong customer services, channel reciprocity) were positively related to consumers' hedonic and utilitarian shopping purposes [75]. These dimensions are similar to the channel integration dimensions examined in this study. According to Wu and Chang [77], in a multi-channel retail environment, consumers generate more trust toward the businesses who provide coherent information and shopping process across all the channels. With higher trust, consumers would probably generate more favorable assessments (e.g., monetary savings, convenience, and hedonic value) toward products, information and services [77]. Thus, coherent information (i.e., IP, IPP, ITI) and consistent shopping process (i.e., IIA, IOF, ICS) across different channels may induce consumers to perceive higher functional and hedonic values [79]. Therefore, hypotheses 1a–f and 2a–f were proposed as follows.

Hypothesis 1.
(a) Integrated promotion (IP), (b) integrated product and price (IPP), (c) integrated transaction information (ITI), (d) integrated information access (IIA), (e) integrated order fulfillment (IOF), and (f) integrated customer service (ICS) have positive impact on consumer-perceived hedonic value in the omni-channel retail shopping context.

Hypothesis 2.
(a) Integrated promotion (IP), (b) integrated product and price (IPP), (c) integrated transaction information (ITI), (d) integrated information access (IIA), (e) integrated order fulfillment (IOF), and (f) integrated customer service (ICS) have positive impact on consumer-perceived utilitarian value in the omni-channel retail shopping context.

2.5. Organism: Perceived Risk and Perceived Behavioral Control

In addition to consumer perceived values, consumers may generate other evaluations (perceived risk and perceived behavioral control) when utilizing integrated channels in the omni-channel retail setting. Morgan and Hunt's commitment–trust theory demonstrated the importance of trust in business relationships and the negative relationship between trust and uncertainty [80]. Trust could decrease consumers' perceived risks in the shopping procedure, such as transaction risks [81]. Perceived risk (PR) refers to the level of uncertainty consumers perceive regarding using omni-channel shopping method for purchasing apparel products [82][83]. Perceived behavioral control (PBC) is a key concept in the theory of planned behavior (TPB), a popular ethological theory extended from the theory of reasoned action [84]. TPB is often utilized as the theoretical foundation to explain technology adoption [85]. According to Chen [86], PBC includes two aspects: perceived control and perceived difficulty. In this study, PBC is identified as the level of reorganized simplicity or difficulty of executing the action, using omni-channel shopping methods [87].

Prior studies showed that channel integration in the retail setting, especially, integrated product and price cross channels could help reduce the risk consumers perceived when purchasing products online [77][83]. Other studies also demonstrated the impact of channel synergy on reduction of perceived risk of online channel [79][83][88]. Xu and Jackson [83] investigated three important features of successful omni-channel retailers (i.e., channel transparency, channel convenience, and channel uniformity, and discovered that these features were negatively related to consumers' perceived risk. In a recent study, IP, IPP, and ITI were determined as moderators impacting the relationships between online channel media richness (OCMR), and two risk-related variables, information privacy concern and perceived deception toward website channel [79]. The results showed that all three moderators (IP, IPP, and ITI) could improve the negative relationships between OCMR and consumers' concerns toward an online channel because adding an offline channel could mitigate some of the concerns consumers hold toward transaction and privacy risks in a pure online setting.

Although some aspects of channel integration (e.g., integrated promotion, integrated product and price) seem to be able to reduce uncertainties in the online channel, some consumers still have concerns on their personal information security in the omni-channel retail environment when big data and other information integration technologies are used. Piotrowicz and Cuthbertson [89] stated that the balance between personalization and privacy was a key issue in the omni-channel retail environment, especially when consumers' information was overused for marketing purposes. Furthermore, many researchers asserted that the application of big data and predictive systems in the retail setting would cause consumer backlash because many consumers had concerns for personal data breaches [89][90][91][92]. According to Bradlow et al. [90], if retailers practice some information protection techniques (e.g., opt-in policy), consumers would have less concerns for the information privacy issue and generate more favor toward the information services provided by omni-channel retailers. Since the current study did not limit respondents' omni-channel shopping experiences to those retailers engaged in information protection practices, the respondents might still hold unfavorable attitude toward the two information-related integration involved in consumers' personal information: integrated transaction information (ITI) and integrated information access (IIA). Therefore, this study proposed four negative relationships (3a, 3b, 3e, and 3f), and two positive relationships (3c and 3d) with perceived risk as follows.

Hypothesis 3.
Integrated promotion (IP) (a), Integrated product and price (IPP) (b), Integrated order fulfillment (IOF) (e) and Integrated customer service (ICS) (f) negatively affect perceived risk in the omni-channel retail context while Integrated transaction information (ITI) (c) and Integrated information access (IIA) (d) positively affect perceived risk in the omni-channel retail context.

In addition to perceived risk, researchers also demonstrated the connections between channel integration and perceived behavioral control (PBC). Xu et al. [83] revealed that the three omni-channel characteristics, namely, channel transparency, channel convenience, and channel uniformity, had significantly positive influence on PBC of using omni-channel shopping methods. Some researchers explored the impact of channel integration on consumer empowerment, a similar concept to PBC, and found the significant relationship [38][42]. The relationship between channel integration and PBC was justified as that when all the information and services were well integrated across different channels, consumers would become more confident and certain about their capability of purchasing products whenever, wherever, and however when using omni-channel services [38][42]. Therefore, we proposed that when the six dimensions of channel integration achieved a higher level, consumers would perceive higher behavioral control of using the omni-channel shopping methods. The hypotheses 4a–f were proposed below.

Hypothesis 4.

(a) Integrated promotion (IP), (b) integrated product and price (IPP), (c) integrated transaction information (ITI), (d) integrated information access (IIA), (e) integrated order fulfillment (IOF), and (f) integrated customer service (ICS) have positive impact on perceived behavioral control (PBC) in the omni-channel retail context.

2.6. Behavioral Responses and Moderating Effect of Perceived COVID-19 Vulnerability

This study examined U.S. consumers' selection intentions of the three popular omni-channel shopping methods (i.e., BOPI, BOCP, and BIHD), and proposed that the four mediators (i.e., PHV, PUV, PR, and PBC) would directly influence the intentions of choosing the omni-channel shopping methods. Prior studies showed the connections between these mediators and consumers' behavioral responses, such as purchase intention, repatronage intention, channel selection intention, and channel switching intention [23][74][77][78][83][93]. Kim et al. [16] found that hedonic motivation positively impacted consumers' behavioral intentions toward using BOPI. Other studies revealed that utilitarian value (e.g., save time, money, and effort) was the primary determinant of consumer selection BOPI method [94][95].

According to Lee et al. [94], PBC positively influenced consumers' intentions toward using BOPI because when an order was placed online for in-store pickup, consumers could pick up the order within a short time and check the quality of the product in person. This process makes consumers feel that they have control over the whole shopping process and they are able to reach their goals [94]. Moreover, BOPI service may help reduce the risks of getting defective or wrong products since consumers could reject the products in the store, save shipping cost and waiting time, and receive immediate gratification [87]. All the effects explained above should have the same effects on BOCP because BOPI and BOCP are two similar services. The only difference is, when using BOCP, consumers could wait in their car for their order instead of walking inside of the store. BOCP has become a popular shopping method during the pandemic for the safety consideration.

Rather than purchasing product online and picking up order offline like BOPI and BOCP, consumers can purchase products in store and receive their orders through shipment when using the BIHD service. Similar to BOPI and BOCP, BIHD also allows customers to see and touch products in person, which may reduce their concerns and uncertainties about products' fit and performance [96][97]. Under this circumstance, customers can not only receive joy and happiness of browsing and trying on products in the physical store channel, but also receive the convenience of the shipping service if the products they purchase are too many or large to carry with them. Moreover, air travelers may also avoid extra charges for their overweight luggage by having the retailers ship the orders directly to home. Thus, BIHD service can also provide consumers hedonic and utilitarian values, as well as reduce perceived risks. If they see an omni-channel shopping method as easy or less difficult to practice, they will be more likely to use the method for shopping fashion products. Therefore, we proposed that perceived hedonic and utilitarian values and perceived behavioral control could positively affect consumers' selection intentions toward the three omni-channel shopping methods (i.e., BOPI, BOCP, and BIHD) while perceived risk could negatively affect consumers' shopping method selection. Hypotheses 5a–d, 6a–d, and 7a–d were proposed as follows.

Hypothesis 5.
(a) Perceived hedonic value (PHV), (b) perceived utilitarian value (PUV), (c) perceived risk (PR), and (d) perceived behavioral control (PBC) significantly affect the consumers' intention to use buy online pick-up in-store (BOPI).

Hypothesis 6.
(a) Perceived hedonic value (PHV), (b) perceived utilitarian value (PUV), (c) perceived risk (PR), and (d) perceived behavioral control (PBC) significantly affect the consumers' intention to use buy online curbside pickup (BOCP).

Hypothesis 7.
(a) Perceived hedonic value (PHV), (b) perceived utilitarian value (PUV), (c) perceived risk (PR), and (d) perceived behavioral control (PBC) significantly affect the consumers' intention to use buy in-store home delivery (BIHD).

Consumer behaviors changed under different stages of the pandemic, across different countries and areas, and under different governmental policies. Individual differences influenced consumers' channel selections [98]. In a recent study, researchers investigated apparel consumers' channel shifting intentions during the COVID-19 pandemic and discovered that perceived vulnerability (PV) affected consumers' attitude toward shifting to online channel from physical channel [53]. In other words, when consumers held stronger belief toward that if they got sick from COVID-19, the situation would be serious, they would be more likely to switch to online channel to purchase fashion products. Perceived vulnerability is the key concept in the protection motivation theory for measuring threat appraisals (the degree of risk of perilous actions) [99]. Moon et al. [98] revealed that perceived vulnerability and offline-channel use intention were negatively correlated. BOPI and BOCP services could help reduce the searching and browsing time consumers might spend in physical stores or

even skip the offline channel (walk-ins) to receive orders. However, BIHD service requires consumers to shop inside of stores, which might seem to be riskier under COVID-19. Thus, we proposed that PV might enhance the relationships between the four mediators (i.e., PHV, PUV, PR, and PBC) and the selection intentions toward BOPI and BOCP, but weaken the relationships between the four mediators and the intention to use BIHD. Therefore, the hypotheses 5e–g, 6e–g, and 7e–g were proposed as follows.

Hypothesis 5.
Under the omni-channel retail context, the higher the perceived COVID-19 vulnerability, the greater the impact of (e) perceived hedonic value (PHV), (f) perceived utilitarian value (PUV), (g) perceived risk (PR), and (h) perceived behavioral control (PBC) on the intentions to use buy online pick-up in-store (BOPI).

Hypothesis 6.
Under the omni-channel retail context, the higher the perceived COVID-19 vulnerability, the greater the impact of (e) perceived hedonic value (PHV), (f) perceived utilitarian value (PUV), (g) perceived risk (PR), and (h) perceived behavioral control (PBC) on the intentions to use buy online curbside pickup (BOCP).

Hypothesis 7.
Under the omni-channel retail context, the higher the perceived COVID-19 vulnerability, the weaker the impact of (e) perceived hedonic value (PHV), (f) perceived utilitarian value (PUV), (g) perceived risk (PR), and (h) perceived behavioral control (PBC) on the intentions to use buy in-store home delivery (BIHD).

3. Proposed Research Model and Developed Survey Instrument

According to the literature review above, an integrative S-O-R model for fashion omni-channel retailing covering all the proposed relationships (48 hypotheses) is delineated in **Figure 1**. Integrated promotion (IP), integrated product and price (IPP), integrated transaction information (ITI), integrated information access (IIA), integrated order fulfillment (IOF), and integrated customer service (ICS) may affect U.S. consumers' perceived value (perceived hedonic value (PHV) and perceived utilitarian value (PUV)), perceived risk (PR), and perceived behavioral control (PBC) toward apparel omni-channel retailing. Consequently, the U.S. consumer's perceived value, perceived risk, and perceived behavioral control may affect their omni-channel shopping method selection including buy online pick-up in-store (BOPI), buy online curbside pickup (BOCP), and buy in-store home delivery (BIHD). Perceived COVID-19 vulnerability (PV) may moderate the correlations between perceived value, perceived risk, and perceived behavioral control and U.S. consumers' shopping method selection. The demographic variables including age, gender, income level, and education level were treated as control factors.

The six dimensions of channel integration (i.e., IP, IPP, ITI, IIA, IOF, and ICS) were adapted from Oh et al. [62] and Zhang et al. [42]. Perceived hedonic value (PHV) and perceived utilitarian value (PUV) were adapted from Babin et al. [70] and Picot-Coupey et al. [100]. The scales for perceived risk (PR) and perceived behavioral control (PBC) were adapted from Xu et al. [83]. The scales for the selection intentions of the three omni-channel shopping methods, buy online pick-up in-store (BOPI), buy online curbside pickup (BOCP), and buy in-store home delivery (BIHD), were also adapted from Xu et al. [83]. The scale for the moderator, perceived COVID-19 vulnerability (PV), was adapted from Youn et al. [53]. For the selection intentions of the three omni-channel shopping methods, the authors applied a seven-point Likert scale (1 = extremely unlikely, 2 = moderately unlikely, 3 = slightly unlikely, 4 = neither likely nor unlikely, 5 = slightly likely, 6 = moderately likely, and 7 = extremely likely). For the rest of the variables, a seven-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, and 7 = strongly agree) was applied. Appendix A presents all the constructs and their corresponding measurement scales.

4. Methodology

4.1. Research Design and Data Collection

The primary data were collected by a Qualtrics survey of U.S. consumers who had previously used omni-channel fashion retailing in May 2021. The professional survey platform used was Amazon Mechanical Turk (https://www.mturk.com, accessed on 5 May 2021), which enabled to approach a broad group of eligible participants and has its advantages, such as relatively low cost, short response time, and representative samples [101]. A total of 516 eligible responses were received. **Table 2** shows the profile of the participants.

Table 2. Profile of the survey participants.

Age		Income	
18–25	9%	Under $5000	2%
26–30	23%	$5000 to $9999	2%
31–35	17%	$10,000 to $14,999	2%
36–40	18%	$15,000 to $24,999	8%
41–45	13%	$25,000 to $34,999	12%
46–50	7%	$35,000 to $49,999	16%
51–55	6%	$50,000 to $74,999	30%
56–60	3%	$75,000 to $99,999	15%
61 and older	4%	$100,000 and more	12%
Gender		**Education**	
Female	55%	High school diploma	7%
Male	45%	Associate degree/Some college education	13%
Ethnicity		Bachelor's degree	51%
White/Caucasian	73%	Master's degree	25%
Black/African American	14%	Doctorate degree	1%
Asian American/Pacific Islander	7%	Professional degree (e.g., JD, MD)	2%
Latino/Hispanic	4%	**Annual Apparel Expenditure**	
Native American	2%	$0–99	4%
Other	1%	$100–299	16%
Annual Omni–Channel Shopping Frequency		$300–499	21%
1–5 times	33%	$500–699	22%
6–10 times	37%	$700–899	11%
11–20 times	18%	$900–1099	10%
20–50 times	9%	$1100–1499	8%
More than 50 times	3%	$1500–1999	3%
		$2000 and more	5%

Among the 516 eligible respondents, 92% held associate and above degrees, which displayed a higher education level among the omni-channel retail consumers. Most of the participants (80%) were in the young or middle-age groups ranging from age 18 to 45. Regarding the ethnicity of the participants, most belong to the group of White/Caucasian (73%), and the rest of the participants were composed of the other minority groups, mainly, Black/African American, Asian American/Pacific Islander, and Latino/Hispanic. Regarding household income, 30% of the participants belong to the scope of USD 50,000–74,999; followed by 16% in the range of USD 35,000–49,999; 15% in USD 75,000–99,999; 12% acquired more than USD 100,000; and 4% received less than USD 10,000. Regarding the annual apparel expenditure, most respondents (59%) spent USD 100–699; 29% spent USD 700–1499; 8% spent over USD 1500; and only 4% spent less than UDS 100. With regard to the omni-channel shopping frequency, most respondents (70%) shopped under 10 times, 18% shopped 10–20 times, and 12% shopped over 20 times.

4.2. Data Analysis Methods

The statistical assumptions including normality, multicollinearity, and correlations were first examined. If skewness and kurtosis scores of a construct are between −2 and +2, normality assumption is met [102]. The variance-inflation factors (VIFs) at 5.0 or smaller show no multicollinearity problem among exogenous constructs [103].

The average score of the multi-items for each latent construct was computed and used in further statistical analysis such as correlation analysis and multiple regression analysis [104][105][106][107]. Pearson correlation analysis examined the

relationship between the constructs. The correlation coefficient value (r) ranging from 0.10 to 0.29 is considered weak, from 0.30 to 0.49 is considered medium, and from 0.50 to 1.0 is considered strong [108].

Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were employed to test the constructs in the proposed model in terms of reliability, unidimensionality, and construct validity (both convergent validity and discriminant validity). Unidimensionality, reliability, convergent validity, and discriminant validity were examined for proving model adequacy. Unidimensionality determines if one underlying construct accounts for variation in examinee responses [108]. Both Cronbach's alpha and construct reliability measure reliability of a construct, which reflects how closely related a set of measurement items are as a group [109]. Convergent validity is valid when Average Variance extracted (AVE) score of a construct is above the threshold of 0.50. AVE is a measure of the amount of variance that is captured by a construct in relation to the amount of variance due to measurement error [110]. Comparing the AVEs to the squared correlation between the two constructs of interest, the AVEs should be greater than the squared correlation in order to demonstrate satisfactory discriminant validity [110].

Multiple regression is applied to predict the value of a variable based on the value of two or more other variables [111]. Thus, multiple regression analysis was selected as an appropriate method for this study to test the hypotheses. SPSS 27 software was used for statistical assumption tests, model adequacy examinations, and multiple regression analysis.

5. Results and Discussions

5.1. Psychometric Properties of Investigated Constructs

As shown in **Table 3**, all the factor loadings of the measurement items to their respective constructs are high (0.7 or higher) which met the criterion. This also shows unidimensionality for the constructs. In addition, the chi-square tests of all constructs were insignificant, which established the evidences of unidimensionality. Cronbach's alphas and construct reliability of all the constructs are greater than 0.70, indicating that reliability is met [109]. The AVE scores for all the constructs are above 0.50, showing convergent validity is met. All AVE scores are greater than the squared corresponding correlations, which demonstrate satisfactory discriminant validity (see **Table 3** and **Table 4**).

Table 3. Psychometric properties of investigated constructs.

	Factor Loading	Cronbach's Alpha	Construct Reliability	AVE	χ^2 Test p Value
Integrated promotion (IP)		0.706	0.790	0.557	0.125
IP3	0.758				
IP4	0.723				
IP5	0.757				
Integrated product and price (IPP)		0.763	0.835	0.558	0.093
IPP1	0.727				
IPP3	0.731				
IPP4	0.796				
IPP5	0.733				
Integrated transaction information (ITI)		0.723	0.829	0.548	0.106
ITI1	0.759				
ITI2	0.746				
ITI3	0.703				
ITI4	0.751				
Integrated information access (IIA)		0.771	0.895	0.682	0.078
IIA1	0.786				
IIA2	0.745				

	Factor Loading	Cronbach's Alpha	Construct Reliability	AVE	χ² Test p Value
IIA3	0.878				
IIA4	0.885				
Integrated order fulfillment (IOF)		0.707	0.781	0.543	0.163
IOF1	0.709				
IOF2	0.719				
IOF3	0.781				
Integrated customer service (ICS)		0.723	0.815	0.687	0.185
ICS2	0.829				
ICS3	0.829				
Perceived Hedonic Value (PHV)		0.928	0.941	0.615	0.057
PHV 1	0.734				
PHV 2	0.745				
PHV 3	0.788				
PHV4	0.813				
PHV5	0.811				
PHV6	0.822				
PHV7	0.711				
PHV8	0.797				
PHV9	0.791				
PHV10	0.821				
Perceived Utilitarian Value (PUV)		0.724	0.882	0.599	0.103
PUV1	0.788				
PUV2	0.770				
PUV3	0.701				
PUV4	0.785				
PUV5	0.820				
Perceived Risk (PR)		0.907	0.931	0.730	0.041
PR1	0.865				
PR2	0.881				
PR3	0.841				
PR4	0.862				
PR5	0.821				
Perceived Behavioral Control (PBC)		0.759	0.862	0.676	0.118
PBC1	0.842				
PBC2	0.793				
PBC3	0.830				
Perceived COVID-19 Vulnerability (PV)		0.910	0.930	0.691	0.039
PV1	0.875				
PV2	0.875				

	Factor Loading	Cronbach's Alpha	Construct Reliability	AVE	χ² Test *p* Value
PV3	0.871				
PV4	0.849				
PV5	0.780				
PV6	0.725				
Buy Online Pick-up In-store (BOPI)		0.930	0.944	0.677	0.035
BOPI1	0.789				
BOPI2	0.829				
BOPI3	0.821				
BOPI4	0.859				
BOPI5	0.795				
BOPI6	0.821				
BOPI7	0.844				
BOPI8	0.821				
Buy Online Curbside Pickup (BOCP)		0.943	0.953	0.716	0.031
BOCP1	0.837				
BOCP2	0.818				
BOCP3	0.831				
BOCP4	0.868				
BOCP5	0.835				
BOCP6	0.863				
BOCP7	0.872				
BOCP8	0.846				
Buy In−store Home Delivery (BIHD)		0.962	0.968	0.791	0.028
BIHD1	0.863				
BIHD2	0.879				
BIHD3	0.894				
BIHD4	0.919				
BIHD5	0.901				
BIHD6	0.876				
BIHD7	0.897				
BIHD8	0.887				

Table 4. Correlations and properties of all constructs.

	IP	IPP	ITI	IIA	IOF	ICS	PHV	PUV	PR	PBC	PV	BOPI	BOCP	BIHD
IP	1	0.554 **	0.430 **	0.404 **	0.497 **	0.419 **	0.319 **	0.291 **	−0.134 **	0.462 **	−0.055	0.425 **	0.266 **	0.186 **
IPP	*0.307*	1	0.507 **	0.469 **	0.509 **	0.443 **	0.333 **	0.264 **	−0.100 **	0.399 **	−0.006	0.384 **	0.251 **	0.231 **
ITI	*0.185*	*0.257*	1	0.543 **	0.461 **	0.486 **	0.426 **	0.146 **	0.069	0.392 **	−0.018	0.308 **	0.301 **	0.356 **

	IP	IPP	ITI	IIA	IOF	ICS	PHV	PUV	PR	PBC	PV	BOPI	BOCP	BIHD
IIA	0.163	0.220	0.295	1	0.452**	0.582**	0.514**	0.014	0.199**	0.296**	−0.068	0.306**	0.364**	0.422**
IOF	0.247	0.259	0.213	0.204	1	0.483**	0.315**	0.270**	−0.040	0.476**	−0.047	0.349**	0.268**	0.263**
ICS	0.176	0.196	0.236	0.339	0.233	1	0.469**	0.043	0.134**	0.272**	−0.018	0.269**	0.261**	0.401**
PHV	0.102	0.111	0.181	0.264	0.100	0.220	1	−0.061	0.325**	0.250**	−0.110	0.376**	0.394**	0.527**
PUV	0.085	0.070	0.021	0.000	0.073	0.002	0.004	1	−0.560**	0.471**	0.053	0.246**	0.145**	−0.023
PR	0.018	0.010	0.005	0.040	0.002	0.018	0.106	0.314	1	−0.223**	−0.165**	−0.067	0.029	0.257**
PBC	0.213	0.159	0.154	0.088	0.227	0.074	0.063	0.222	0.050	1	−0.068	0.473**	0.388**	0.159**
PV	0.003	0.000	0.000	0.005	0.002	0.000	0.012	0.003	0.027	0.005	1	−0.046	−0.148**	−0.046
BOPI	0.181	0.147	0.095	0.094	0.122	0.072	0.141	0.061	0.004	0.224	0.002	1	0.472**	0.236**
BOCP	0.071	0.063	0.091	0.132	0.072	0.068	0.155	0.021	0.001	0.151	0.022	0.223	1	0.284**
BIHD	0.035	0.053	0.127	0.178	0.069	0.161	0.278	0.001	0.066	0.025	0.002	0.056	0.081	1
Mean	5.6	5.7	5.5	5.3	5.6	5.5	5.0	5.1	4.0	5.7	4.0	5.7	5.6	5.4
S.D.	1.0	0.9	1.1	1.1	1.0	1.2	1.1	1.1	1.7	0.9	1.6	1.1	1.3	1.5
Skewness	−0.93	−0.77	−0.98	−0.53	−0.74	−0.88	−0.71	−0.12	−0.27	−0.76	0.13	−1.06	−1.20	−1.10
Kurtosis	1.94	1.09	1.45	0.06	0.79	0.81	0.04	0.09	−1.14	1.21	0.94	1.68	1.67	0.61

Table 4 presents correlations and properties of all constructs. All skewness and kurtosis scores are between +2 and −2, suggesting no violations of normality assumption. All VIF values are below 5.0, indicating no multicollinearity issues among the constructs.

5.2. Hypotheses Testing Results and Discussion

Once the adequacies of all constructs were demonstrated, the proposed hypotheses were tested using multiple regression technique. **Table 5** and **Table 6** present the results of hypothesis testing (Stimulus-Organism-Response). Twenty-one hypotheses were statistically significant at a $p < 0.05$ level. Perceived COVID-19 vulnerability did not show any significant moderating effect. Demographic variables (i.e., age, gender, education level, and income level) did not directly affect the U.S. consumers' omni-channel shopping method selection but did significantly affect some perceived value, risk, and behavior control.

Table 5. Results of hypothesis testing (impacts of stimulus on organism).

Hyp.		DV	IDV	Std. Coef. (β)	t-Value	Sig. at p < 0.05	Control Variable	Std. Coef. (β)	t-Value	Sig. at p < 0.05	Total R^2	Sig. at p < 0.05
		PHV	Constant		3.459	0.001	Age	−0.004	−0.109	0.913		
H1a	N		IP	0.049	1.036	0.301	Gender	0.028	0.737	0.461		<0.000
H1b	N		IPP	0.010	0.195	0.845	Education	−0.009	−0.233	0.816	0.331	F = 24.63
H1c	Y		ITI	0.158	3.280	0.001	Income	−0.025	−0.667	0.505		(10/497)
H1d	Y		IIA	0.287	5.756	0.000						
H1e	N		IOF	−0.019	−0.395	0.693						
H1f	Y		ICS	0.210	4.310	0.000						

Hyp.	DV	IDV	Std. Coef. (β)	t-Value	Sig. at $p < 0.05$	Control Variable	Std. Coef. (β)	t-Value	Sig. at $p < 0.05$	Total R^2	Sig. at $p < 0.05$
	PUV	Constant		6.946	0.000	Age	0.047	1.142	0.254		
H2a	Y	IP	0.208	4.040	0.000	Gender	−0.078	−1.903	0.058	0.297	<0.000 $F = 12.20$ (10/497)
H2b	Y	IPP	0.149	2.755	0.006	Education	−0.124	−2.973	0.003		
H2c	N	ITI	0.068	1.293	0.197	Income	0.161	3.857	0.000		
H2d	Y	IIA	0.160	2.924	0.004						
H2e	Y	IOF	0.202	3.888	0.000						
H2f	Y	ICS	0.131	2.456	0.014						
	PR	Constant		7.775	0.000	Age	−0.038	−0.926	0.355		
H3a	Y	IP	−0.203	−3.891	0.000	Gender	−0.092	−2.212	0.027	0.276	<0.000 $F = 10.62$ (10/497)
H3b	Y	IPP	−0.154	−2.812	0.005	Education	0.142	3.368	0.001		
H3c	N	ITI	0.046	0.856	0.392	Income	−0.191	−4.520	0.000		
H3d	Y	IIA	0.247	4.452	0.000						
H3e	N	IOF	−0.069	−1.307	0.192						
H3f	Y	ICS	−0.138	−2.546	0.011						
	PBC	Constant		7.536	0.000	Age	0.036	0.950	0.342		
H4a	Y	IP	0.252	5.344	0.000	Gender	−0.058	−1.551	0.122	0.328	<0.000 $F = 24.28$ (10/497)
H4b	N	IPP	0.064	1.295	0.196	Education	0.076	2.005	0.045		
H4c	Y	ITI	0.157	3.248	0.001	Income	0.034	0.898	0.370		
H4d	N	IIA	0.004	0.071	0.944						
H4e	Y	IOF	0.283	5.932	0.000						
H4f	N	ICS	−0.068	−1.399	0.163						

Table 6. Results of Hypothesis Testing (Impacts of Organism on Response).

Hyp.	DV	IDV	Std. Coef. (β)	t-Value	Sig. at $p < 0.05$	Control Variable	Std. Coef. (β)	t-Value	Sig. at $p < 0.05$	Total R^2	Sig. at $p < 0.05$
	BOPI	Contant		3.128	0.002	Age	0.037	0.956	0.340		
H5a	Y	PHV	0.306	7.208	0.000	Gender	0.039	1.013	0.312	0.310	<0.000 $F = 18.49$ (12/495)
H5b	N	PUV	0.051	1.019	0.309	Education	−0.017	−0.421	0.674		
H5c	N	PR	−0.045	−0.914	0.361	Income	0.026	0.665	0.506		
H5d	Y	PBC	0.368	8.049	0.000						
H5e	N	PHV*PV	0.033	0.739	0.460						
H5f	N	PUV*PV	0.043	0.769	0.442						
H5g	N	PR*PV	0.041	0.760	0.448						
H5h	N	PBC*PV	−0.063	−1.327	0.185						
	BOCP	Contant		3.719	0.000	Age	−0.056	−1.411	0.159	0.264	
H6a	Y	PHV	0.331	7.555	0.000	Gender	−0.040	−1.011	0.312		<0.000 $F = 14.77$ (12/495)
H6b	N	PUV	0.027	0.509	0.611	Education	−0.026	−0.646	0.518		
H6c	N	PR	−0.002	−0.030	0.976	Income	−0.014	−0.345	0.730		

Hyp.	DV	IDV	Std. Coef. (β)	t-Value	Sig. at p < 0.05	Control Variable	Std. Coef. (β)	t-Value	Sig. at p < 0.05	Total R^2	Sig. at $p < 0.05$
H6d	Y	PBC	0.284	6.005	0.000						
H6e	N	PHV*PV	0.071	1.533	0.126						
H6f	N	PUV*PV	−0.102	−1.764	0.078						
H6g	N	PR*PV	−0.029	−0.530	0.596						
H6h	N	PBC*PV	0.090	1.833	0.067						
		BIHD	Cont.		1.346	0.179	Age	−0.056	−1.411	0.159	
H7a	Y	PHV	0.475	11.127	0.000	Gender	−0.040	−1.011	0.312	
H7b	N	PUV	0.073	1.446	0.149	Education	−0.026	−0.646	0.518	0.303
H7c	Y	PR	−0.147	−2.997	0.003	Income	−0.014	−0.345	0.730	
H7d	N	PBC	0.028	0.600	0.549						<0.000 F = 14.77 (12/495)
H7e	N	PHV*PV	0.014	0.307	0.759						
H7f	N	PUV*PV	0.009	0.152	0.879						
H7g	N	PR*PV	−0.052	−0.957	0.339						
H7h	N	PBC*PV	0.077	1.617	0.107						

Specifically, integrated transaction information (ITI), integrated information access (IIA), and integrated customer service (ICS) showed positive and significant effects on U.S. consumers' perceived hedonic value (PHV) toward apparel omni-channeling retailing, supporting H1c,d,f. In other words, for U.S. consumers who seek hedonic value from shopping apparel through omni-channeling retailing, online and offline transaction information, information access and customer service need to be organically integrated [75][77][78][79]. There is no significant difference in perceived hedonic value (PHV) among different consumer segments.

Integrated promotion (IP), integrated product and price (IPP), integrated information access (IIA), integrated order fulfillment (IOF), and integrated customer service (ICS) positively affected U.S. consumers' perceived utilitarian value (PUV) toward apparel omni-channeling retailing, supporting H2a,b,d,e,f. Given the proliferation of apparel omni-channel in recent years, competition among retailers have been accelerating. To offer consumers desired utilitarian value, an apparel omni-channel retailer needs to fully integrate its promotion, product and price, information access, order fulfillment, and integrated customer service between online and offline channels [71][72][74]. Education level negatively affected perceived utilitarian value while income level showed a positive impact. This means that U.S consumers with higher education level less prioritized utilitarian value from apparel omni-channel retailing, while higher-income consumers perceived more utilitarian value from omni-channel apparel shopping.

Integrated promotion (IP), integrated product and price (IPP), and integrated customer service (ICS) negatively affected U.S. consumers' perceived risk (PR) toward apparel omni-channeling retailing, while integrated information access (IIA) showed a positive impact, supporting H3a,b,d,f. A better integration of promotion, product and price, and customer service among shopping channels can effectively reduce consumers' perceived risk. An interesting finding is the integration of online and offline information access could increase consumers' perceived risk. This might corroborate consumers' concern on the online shopping security due to the increasing number of reported personal data breaches in recent years [79][83]. In general, females and consumers with higher education level showed higher perceived risk toward apparel omni-channel retailing while a higher income level reduced perceived risk.

Integrated promotion (IP), integrated transaction information (ITI), and integrated order fulfillment (IOF) positively affected U.S. consumers' perceived behavioral control (PBC) toward apparel omni-channel retailing, supporting H4a,c,f. When omni-channel apparel retailers could provide more effective integration of promotion, transaction information (ITI), and order fulfillment between online and offline channels, U.S. consumers tended to perceive more behavioral control toward using apparel omni-channel retailing [38][42]. Among demographic variables, only education level showed a positive and significant impact on PBC. U.S. consumers with higher education level perceived more behavioral control toward shopping apparel through omni-channel methods.

Perceived hedonic value (PHV) and perceived behavioral control (PBC) showed positive and significant effects on U.S. consumers' selection of omni-channel shopping methods: buy online pick-up in-store (BOPI) and buy online curbside pickup (BOCP), supporting H5a,d and H6a,d. BOPI and BOCP are only different in pick-up locations. BOPI is becoming a widely accepted omni-channel shopping method in recent years, particularly in metropolitan areas, which avoids potential shipping cost and time, provides consumers early excitement, and can be arranged by consumers themselves. BOCP is gaining more popularity during the COVID-19 pandemic as this method further reduces people contact and simplifies pick-up process. Perceived COVID-19 vulnerability (PV) did not moderate any of these relationships. This might indicate that adoption of these omni-channel shopping methods is not particularly driven by the pandemic but that these have become alternative daily shopping methods reflecting the profound lifestyle changes among U.S. consumers. There were no significant effects by demographic variables.

Figure 2 illustrates the identified relationships in the proposed research model. The proposed model shows a satisfactory explanatory power. Stimuli including integrated promotion (IP), integrated product and price (IPP), integrated transaction information (ITI), integrated information access (IIA), integrated order fulfillment (IOF), and integrated customer service (ICS) play a critical role in forming an individual's internal state (perceived hedonic value (PHV), perceived utilitarian value (PUV), perceived risk (PR), and perceived behavioral control (PBC)) toward fashion omni-channel retailing, which subsequently derives the individual's behavioral response (fashion omni-channel shopping method selection). The variances in adoption of BOPI, BOCP, BIHD are accounted for at 31%, 26.4%, and 30.3%, respectively. Perceived COVID-19 vulnerability (PV) does not moderate any relationships investigated.
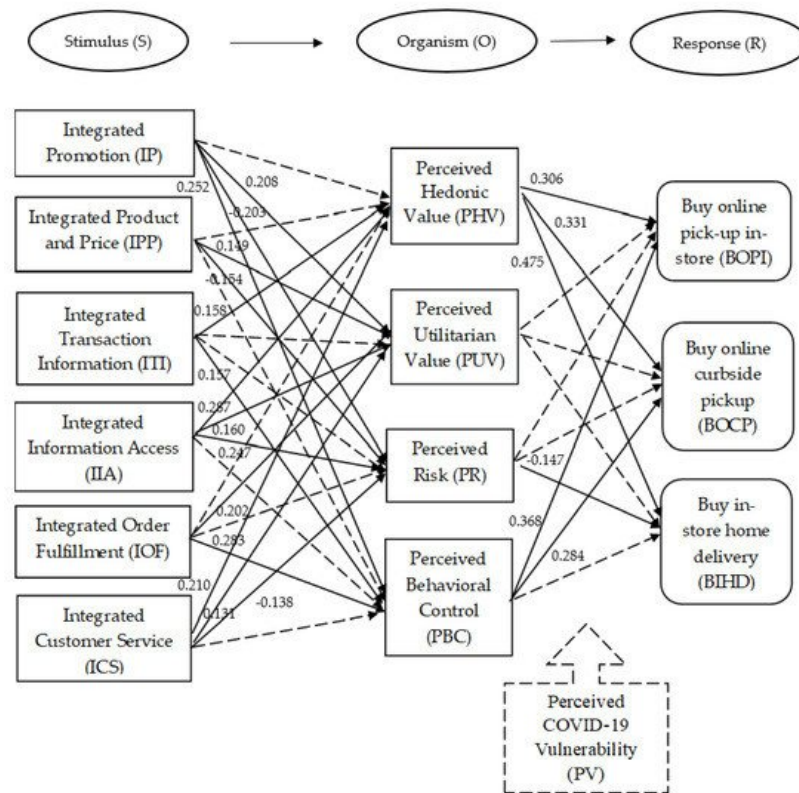

Figure 2. Identified relationships in the proposed research model.

6. Conclusions

In recent years, fashion brands and retailers are moving quickly to provide U.S. consumers more seamless omni-channel shopping experiences. The pandemic has further accelerated the growth of omni-channel shopping and promoted certain safety-oriented methods such as buy online curbside pickup (BOCP). Omni-channel shopping is becoming the new norm for the U.S. consumers [112]. Omni-channel consumers are hungry for innovation and are more likely to experiment with new technologies and engaging shopping methods [113]. As the number of omni-channel consumers continue to grow, the degree and pace of innovation and integration will need to grow to serve them. To better understand the fashion omni-channel retailing, as one of very first efforts, this study provides the valuable insights to fashion brands and retailers on the determinants of consumers' selection of omni-channel shopping methods and the impact of the COVID-19 pandemic.

Overall, this study contributes to the existing literature in four ways. First, based on the Stimulus-Organism-Response (S-O-R) model, this study proposed an omni-channel retailing model linking six types of channel integration (stimulus) to consumers' intentions to use three omni-channel shopping methods (response) through the mediators of consumer

perceived value, risk, and behavioral control (organism). The moderating effects of COVID-19 vulnerability on the relationships between consumers' internal evaluations of channel integration and their shopping method selection intentions were also included in the proposed model. The variances in U.S. consumers' intentions to use Buy Online Pick-up In-store (BOPI), Buy Online Curbside Pickup (BOCP), or Buy In-store Home Delivery (BIHD) were well accounted for by the model.

Second, the mediating effects played by consumer's internal state (i.e., perceived hedonic value (PHV), perceived utilitarian value (PUV), perceived risk (PR), and perceived behavioral control (PBC)) were identified. PHV and PBC played a significant role in U.S. consumers' selection shopping methods of BOPI and BOCP. The intention to use BIHD is positively affected by PHV but decreases when PR is greater. In contrast, PR is not significantly associated with BOPI and BOCP, which corroborates the popularity of these shopping methods. In addition, utilitarian value seems to be an essential but not a winning value for consumers to use omni-channel shopping methods.

Third, the moderating effects played by perceived COVID-19 vulnerability (PV) were all insignificant. Although the COVID-19 pandemic has profoundly changed the way we have been living and working since Spring 2020, with the rapid nationwide vaccination, the U.S. becomes one of the early major economies returning to normal. The COVID-19 safety measures have started being phased out when this study was conducted. The consumers do not necessarily feel their use of omni-channel shopping methods is due to COVID-19 but has been a long-term shift of lifestyle. This supports the general view that digital transformation will continue to be a top priority among retailers in years to come.

Finally, although there were no significant differences in consumers' omni-channel shopping method selection between consumer segments, some demographic variables did significantly affect perceived utilitarian value, risk, and behavior control. U.S. consumers with lower education level or higher income level perceived more utilitarian value from omni-channel shopping. U.S. consumers with higher education level or lower income level perceived greater level of risk from omni-channel shopping. In comparison, males perceived less risk than female consumers. Education level is positively associated with perceived behavioral control towards omni-channel shopping.

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