BEYOND THE CHECKOUT LINE: EXAMINING THE IMPACT OF THE SATISFACTION-LOYALTY LINK AND BARRIERS ON BOPIS AND CURBSIDE ADOPTION AMONG SENIOR GROCERY SHOPPERS

Samantha C. Gibson, Robert Morris University, USA
Andrew J. Dahl, University of Wisconsin-Whitewater, USA
Maxwell K. Hsu, University of Wisconsin-Whitewater, USA

ABSTRACT

Vast technological advances in supermarket buying options, such as BOPIS (buy online, pickup in-store) and curbside pickup, have had minimal impact on senior consumers, as most in this age group still prefer traditional in-store grocery shopping. Given this age cohort is expected to triple over the next decade, this research offers insights into how grocery stores can target senior consumers' usage of BOPIS and curbside pickup, while avoiding complaining behaviors. Despite the rapid growth in grocery e-commerce, we address the gap in research by investigating why the older consumer demographic has shown lower continued engagement levels with the BOPIS and curbside pickup omnichannel interactions. Grounded in customer satisfaction theory, our research investigates the role of retailer satisfaction-loyalty link and identifies how different barriers deter senior consumers from using BOPIS and curbside pickup in the grocery retailing context. Through a cross-sectional survey of 291 U.S. senior consumers aged 60 and above, the present study reveals that while loyalty plays a pivotal role in determining omnichannel BOPIS and curbside usage intentions, perceived barriers significantly moderate this relationship. The findings provide valuable insights into senior consumers' shopping preferences, highlighting the importance of adapting strategies to cater to this market segment to increase this segment's use of BOPIS and curbside pickup. Our study not only contributes to understanding senior consumers' behavior in the digital age but also offers practical implications for grocery retailers striving to enhance service usability and address the unique needs of the elderly population.

INTRODUCTION

The COVID-19 pandemic changed the way many consumers shopped for groceries and other products. To support consumers' demand for contactless shopping, supermarkets invested heavily in buy online pickup in-store (BOPIS) and curbside pickup services (Aull et al., 2021, Safartan, 2022). While consumers have shifted back to in-store shopping for groceries, retailers remain interested in maximizing the value of BOPIS and curbside investments since studies show omnichannel shoppers not only spend significantly more in-store and online, but also increase their in-store shopping frequency (Sopadjieva, Dholakia, and Benjamin, 2017). Specific to the grocery sector, a 2023 industry report indicates omnichannel grocery buyers spend 1.5 times more and are three times more loyal than single-channel buyers (Incisiv Research, 2023). Despite increased familiarity and usage during the pandemic, the senior consumer cohort of Baby Boomers have recently decreased their utilization of BOPIS and curbside in the grocery sector (van Gelder, 2023). Meiners et al. (2021) noted that despite the increasing importance of senior consumers, there is a dearth of research on senior consumption. Yet the senior consumer cohort's buying power remains critically important to grocery retailers' e-commerce and omnichannel operations (Bishop, 2021), with research necessary that helps identify how to best support seniors as they navigate age-related health concerns (Guido et al., 2021; Pantano et al., 2022). In particular, research is necessary that

contributes to understanding senior consumers' intentions to adopt online grocery shopping in light of potential age-related mobility concerns and related issues such as walking supermarket aisles, lifting heavy items, placing groceries in the car, and unloading groceries (Bishop, 2021; Moran, 2021). Furthermore, 87% of grocery retailing executives have prioritized omnichannel buyers as the key segment given the positive impact on customer lifetime value (Incisiv Research, 2023). Grocery retailers are thus strongly interested in how experiences from the existing (primarily in-store) relationship and satisfaction-loyalty link can be leveraged to increase senior consumers' omnichannel grocery shopping intentions to capture a greater share of senior consumers' wallets (Gibson et al., 2024). As Larsen and Wright (2020) suggest, satisfaction is, or should be, the ultimate goal of all marketing activities.

U.S. grocery e-commerce sales continue to grow, with an 18% year-over-year increase in 2023, and are forecasted to account for 16% of total grocery sales by 2027 (Incisiv Research, 2023; Yuen, 2023). In the realm of omnichannel grocery services, two key offerings emerged as vital channels to serve senior consumers' increased desire for contactless shopping options in the past few years (Aull et al., 2021). Buying online and picking up in-store (BOPIS) and curbside pickup order fulfillment services gained momentum during the COVID-19 lockdowns and provided customers with a no-contact shopping option, as technological advances in supermarkets were slow to respond before the pandemic (Aull et al., 2021). While senior consumers increased BOPIS and curbside pickup use during early COVID-19 lockdowns, this demographic remains less likely to continue using these shopping modalities despite retailers' increased investments in technology, infrastructure, and other resources to serve omnichannel shoppers (PYMNTS, 2022). While research continues to investigate how retailers can boost BOPIS and curbside pickup shopping among various age cohorts (Pantano et al., 2022), a critical gap remains in understanding the online grocery shopping behavior of consumers aged 60 and above (Kim et al., 2020, Guido et al., 2021).

The current study aims to bridge this gap by exploring the factors that influence the adoption and continued usage of BOPIS and curbside pickup options among senior consumers, aged 60 and over. Specifically, our research aims to identify how the satisfaction-loyalty link of an existing consumer-retailer relationship and perceived barriers influence the senior demographic's future intentions to use these two omnichannel retailer services. Importantly, this aligns with retailing executives' interest in the growing share of wallets and prioritization of omnichannel grocery shoppers (Incisiv Research, 2023). Utilizing customer satisfaction theory, we examine the critical role of grocery retailer satisfaction and loyalty in shaping older consumers' BOPIS and curbside usage intentions. Structural equation modeling analysis of 291 survey responses from older U.S. consumers reveals that retailer loyalty plays a pivotal mediating role in the use of BOPIS and curbside pickup for senior citizens, indicating a halo effect from the existing consumer-retailer relationship. Additionally, we delve into perceived barriers that deter seniors from embracing BOPIS and curbside pickup, which also signal key complaint areas for grocery retailers to address if focused on targeting senior consumers in omnichannel operations. Collectively, our findings provide useful insights for supermarket grocery retailers and marketers that will aid in improving the usability of BOPIS and curbside pickup services for senior consumers at or over the age of 60 and help grocery retailers avoid complaining behaviors from this key target audience.

The remainder of this paper is structured as follows: we provide a brief literature review of customer satisfaction theory, followed by the development of hypotheses, methodology, and discussion of results. We conclude with theoretical and managerial implications while acknowledging our study's limitations and opportunities for future research.

LITERATURE REVIEW

Grocery shopping is a frequent and routine activity for many consumers, and thus satisfaction with a specific grocery retailer involves an assessment of the shopping experience across repeated interactions (Anderson et al., 1994). Consequently, for senior consumers, customer satisfaction in these high-frequency shopping contexts is likely a function of cumulative experiences over multiple shopping visits rather than individual transactions. Prior research demonstrates customer satisfaction is a critical factor in shaping consumers' patronage intentions (Cronin & Taylor, 1992; Gibson et al., 2022; LaBarbera & Mazursky, 1983; Rita et al., 2019). Customer loyalty also represents a cumulative assessment of one's interactions with a retailer, reflecting an aggregation of positive shopping experiences over time. Consistent with service quality and expectation theories, satisfaction and loyalty evaluations in these frequent shopping contexts are based on the consumers' overall perceptions of a retailer's ability to meet or exceed expectations consistently over time (Parasuraman et al., 1988). Researchers investigating senior consumers' complimenting and complaining behaviors in high-frequency usage contexts may therefore want to consider cumulative satisfaction with the shopping experiences. Senior consumers' buying power continues to grow, heightening the need to understand how cumulative satisfaction-loyalty with retailers may carry over to omnichannel interactions (Pantano et al., 2022). Importantly, data indicates consumers who cross-channel shop exhibit greater overall loyalty and increased spending across all channels (Doong et al., 2011; Sopadjieva, Dholakia, and Benjamin, 2017), making these omnichannel buyers a priority target segment for many retailers.

To better understand the satisfaction-loyalty link, it is critical to understand the customers' evaluation of the existing service experience. Service experience exists when the customer's expectations differ from the actual service performance received (Parasuraman et al., 1985). Within supermarkets, consumers' expectations and experiences with the service provided are important (George, 2005). The current study focuses on the service encounter experienced by senior consumers with their preferred grocery retailer, aiming to examine the halo or spillover effect on intentions to utilize omnichannel service options such as BOPIS and curbside grocery shopping pickup. Service consistency is difficult to measure in both BOPIS and curbside pickup, as one shopper may possess more knowledge than another, and have more shopping experience overall. These and other barriers associated with the unfamiliar nature of BOPIS/curbside pickup for senior consumers may dampen the typical satisfaction-loyalty link to omnichannel usage intention.

Consumers who use online grocery shopping options expect their products to be picked with accuracy. For example, while shopping for perishable products like meat and produce, consumers expect they are fresh and that they have the proper code dates. In addition, consumers expect their products to be available, with the consumers' correct substitutes of choice should the product they originally ordered be out of stock. Poor packaging, timeliness of the order, and out-of-stock issues continue to plague customer satisfaction, particularly with the channel options of BOPIS and curbside pickup (ChaseDesign, 2022). The service quality provided in the BOPIS and curbside pickup is delivered and measured on how satisfied the customer is and how it conforms to the consumer's expectations. Thus, dissatisfaction can result, leading to consumers choosing to use other channels and to higher in-store shopping levels (ChaseDesign, 2022).

Kim et al. (2020) recently examined factors that will influence consumer's intention to use the BOPIS services within the context of the omnichannel strategy. Utilizing the UTAUT2 model, Kim et al.'s study highlights that consumers may not perceive BOPIS as a practical shopping motivator due to the time and cost for the consumer to go directly to pick up the goods ordered

online. In addition, this study considers reasons for not choosing BOPIS services such as compatibility (i.e., the extent to which BOPIS service was compatible with consumer lifestyles), price value, and trust (or lack of trust). Findings revealed a significant role of compatibility and trust. They also found that "the millennial generation values were congruent with omni-channel BOPIS and lifestyle" (p. 2). Notably, Kim et al. (2020) analyzed 358 Korean consumers, with the 30 to 39-year-old group being the largest at 31.6%, 40 to 49-year-olds at 25.4%, and 20 to 29-year-olds at 21.8%. A relatively small number of older respondents were included in Kim et al.'s study, thus limiting the ability to provide a comprehensive understanding of older consumers' perceptions toward omnichannel shopping services.

Satisfaction with the existing service experience and customer-retailer relationship are thus likely to serve as determinants of senior customer usage of both BOPIS and curbside pickup. This research delves into the senior consumers demographic (aged 60 and above) and ascertains their attitudes and usage of BOPIS, curbside pickup, and determines what barriers senior consumers feel may negatively impact their overall customer experience with the service provided by these omnichannel interactions.

HYPOTHESIS DEVELOPMENT

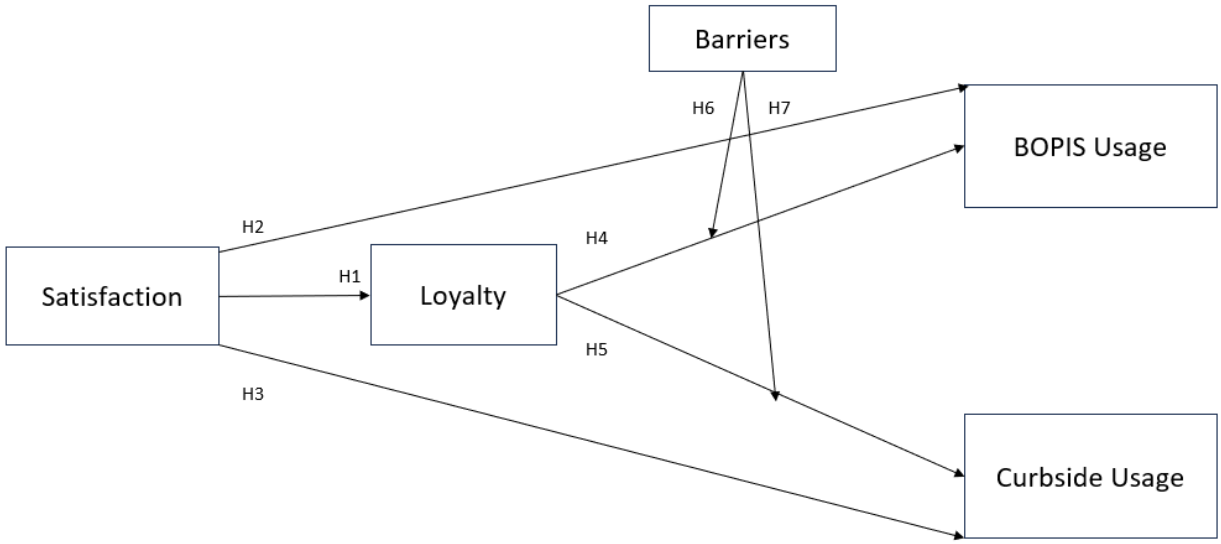
Customer satisfaction arises from the ability of retailers to deliver products and services to their intended customers accurately and promptly, meeting, or surpassing customer expectations. Meeting these expectations involves not only fulfilling fundamental requirements but also addressing individual preferences, resulting in a personalized experience that significantly enhances overall customer contentment. Consequently, customer satisfaction goes beyond the mere availability of products; it involves a seamless integration of offered products with customer expectations, ensuring a positive and tailored experience throughout the entire purchasing process (Lemon & Verhoef, 2016).

Satisfaction reflects the extent to which consumers believe that a service, a product, or a store elicits positive feelings. Customer satisfaction is a critical element in the consumer experience, and numerous studies (LaBarbera & Mazursky, 1983; Olorunniwo & Hsu, 2006; Rita et al., 2019; Taylor & Baker, 1994) have underscored the pivotal role of satisfaction in shaping consumer behavior. Customer satisfaction and loyalty are intricately connected elements in the realm of business, as highlighted by various authors. According to Reichheld (2003), loyalty involves a willingness to invest or make personal sacrifices to strengthen a relationship. Wang et al. (2018) found a significant relationship between customer satisfaction and brand loyalty in the cruise service sector. In the contemporary landscape of omnichannel retailing, the integration of multiple channels plays a pivotal role in shaping customer satisfaction and loyalty. As Bell, Gallino, and Moreno (2014) assert, omnichannel retailing allows customers to seamlessly navigate both online and offline channels simultaneously. The interplay between satisfaction and loyalty intentions is emphasized by Gibson et al. (2022) in the context of convenience stores. Furthermore, Anshu et al. (2022) designed a model for online grocery retailing in a digital environment and empirically examined the model with data from 526 respondents engaged in online grocery purchases. It was found that elevated online customers' attitudes can lead to repurchase intentions. Thus, it is hypothesized that customer satisfaction has a significant and positive effect on grocery shoppers' loyalty.

H1: *There is a positive and significant relationship between customer satisfaction and loyalty.*

The pandemic brought new significance to BOPIS and curbside pickup. In a recent online blog, Vargas (2023) noted that "Encouraging customers to opt for pickup can save retailers on last-mile delivery fees, and many are exploring creative ways to incentivize customers to do so." (Vargas, 2023). Lee (2023) posted an online article on the Flybuy's website and stated that "in a recent customer survey conducted by a QSR brand using Flybuy, customers said they are not likely to return to the QSR by up to 73% if the curbside pickup option were to disappear." (Lee, 2023). In the context of convenience stores, Gibson et al. (2022, p. 10) suggested that "adding more hedonic features, such as delivery and buy-online-pick-up-in-store, may potentially increase a customer's willingness to revisit the location." In contrast, the present study suggests that customer satisfaction can lead to revisit intentions and, in turn, for grocery customers to buy online and pickup the products in-store or curbside. We propose an exploratory model (Figure 1) to investigate how consumer satisfaction influences customers' loyalty intentions and, in turn, on their intentions to use the pickup options (i.e., BOPIS or curbside pickup).

Figure 1. Theoretical Framework for Senior Consumers' BOPIS and Curbside Pickup Usage



Empirical evidence from diverse sectors, such as grocery products (LaBarbera & Mazursky, 1983), services like retail banking and fast food (Cronin & Taylor, 1992), and online shopping (Rita et al., 2019) consistently underscores the impact of customer satisfaction on patronage intentions. Seiders et al. (2005) discovered that overall convenience significantly moderates the influence of satisfaction on repurchase (Seiders et al., 2005). On the other hand, behavioral intentions act as a cornerstone for service providers seeking to elevate customer retention and bolster profitability (Berry et al., 1996). The work of Akturk and Ketzenberg (2022) utilized a proprietary dataset from a national department store chain to examine the competitive implications of a major competitor launching a BOPIS service (Akturk & Ketzenberg, 2022) . This investigation spanned the period before and after a competitor introduced a BOPIS service, with research conducted pre-pandemic. Their empirical findings reveal that "the estimated loss in sales averages 4.7% across the demographic market areas" for the online channel and that "the average

estimated loss in sales is 1.8%" for stores (p. 2732) (Akturk & Ketzenberg, 2022). That is, the focal department store chain experienced a decline in both online and in-store sales following the launch of the competitor's BOPIS service. This discovery exposes the connection between customers' intentions to repeat patronage and their utilization of BOPIS service. Coppola (2021) cited research findings from Digital Commerce 360 in Statista, noting an increase in the utilization of same-day delivery services in the United States between 2020 and 2021 (Coppola, 2021). This upward trend was more pronounced in orders handled by web-only merchants and less frequent among store-based retailers. We argue that individuals who are content with the offerings of their main grocery store are more inclined to revisit the store and, consequently, are more likely to embrace the BOPIS service.

Thus, it is hypothesized a positive relationship between grocery customers' behavioral intentions and their usage of the buy-online and pickup option (i.e., BOPIS and curbside pickup). Moreover, it is hypothesized that there is a positive relationship between grocery customers' satisfaction and their usage of the buy-online and pickup options (i.e., BOPIS and curbside pickup).

H2: *There is a positive and significant relationship between customer satisfaction and their intention to use the BOPIS option.*

H3: *There is a positive and significant relationship between customer satisfaction and their intention to use the curbside pickup option.*

H4: *There is a positive and significant relationship between grocery shoppers' loyalty and their intention to use the BOPIS option.*

H5: *There is a positive and significant relationship between grocery shoppers' loyalty and their intention to use the curbside pickup option.*

Ponte and Dergi (2023) noted a slower adoption of e-grocery compared to other retail e-channels over the last decade, attributing this delay in part to minimal consumer acceptance (Ponte & Sergi, 2023). Fatima and Siddiqui's (2023) research emphasizes the mediating role of attitude and the moderating influence of online trust in the context of omnichannel retail. Yang and Ferney (2013) proposed that consumer anxiety will moderate causal relationships among determinants in the Unified Theory of User Acceptance and Use of Technology (UTAUT) model and their empirical findings confirm the moderating role of consumer technology anxiety in mobile shopping. In the present study, it is hypothesized that barriers to the buy-online options would moderate grocery shoppers' loyalty intentions and their adoption of the buy-online options (i.e., BOPIS and curbside pickup).

H6: *Online shopping barriers moderate the relationship between grocery shoppers' loyalty and their intention to use the BOPIS option.*

H7: *Online shopping barriers moderate the relationship between grocery shoppers' loyalty and their intention to use the curbside pickup option.*

Table 1. Respondent profile

	Sample (*n* = 291)
Used in past 12 months from any retailer	
Shopped online	96.6%
Shopped via mobile app	34.4%
Buy online for in-store pickup	22.3%
Buy online for curbside pickup	24.4%
Used third-party delivery service	11.0%
Gender	
Male	44.7%
Female	55.3%
Age	
61-65	13.1%
66+	86.9%
Household Size	
1 person	29.9%
2 people	60.1%
3+ people	10.0%
Weekly Grocery Expenditures	
<$50/week	16.8%
$50-99.99/week	41.6%
$100-$149.99/week	28.5%
$150-199.99/week	8.6%
$200+/week	4.4%
Frequency of Grocery Shopping	
< 3 times a month	16.8%
Once a week	48.1%
2-3 times a week	29.6%
4+ times a week	5.5%
Education	
Less than some college	15.8%
Some college, but no degree	22.7%
Associate, technical, or bachelor's degree	38.2%
Graduate or professional degree	23.4%

METHODOLOGY

Data collection and sample

A cross-sectional online survey was sent to U.S. grocery consumers via Dynata's opt-in consumer panel service in 2023. To validate data quality, we removed 39 respondents who failed attention checks, had missing or incomplete data, or sped through the survey (Meade & Craig, 2012). Combined, the data screening resulted in a total of 291 (out of 330) usable responses from senior consumers aged 60 or over. Table 1 provides the senior respondents' characteristics. As shown, 22.3% self-reported using BOPIS and 24.4% curbside pickup at least once in the past 12 months.

Measures

We first reviewed the literature to identify relevant constructs and measures. Second, we conducted a pretest with a sample of undergraduate and graduate students and then subjected the items to an exploratory factor analysis and reliability assessment. We further validated our scale items with a sample of consumers consisting of adults ages 18-65+. Notably, a test for measurement invariance compared to our sample of senior consumers revealed no discernible measurement differences. Based on the pretest, we retained 23 of 25 scale items to measure the five constructs (see Table 2). We then further validated the reliability and validity of our measures for the senior consumers of interest in this study as described in our discussion of measurement model results below. All scales were measured via five-point, balanced agreement or likelihood scales. Despite controversy in the academic literature, numerous studies demonstrate it is acceptable to treat balanced, five-category Likert-like scales as interval data (e.g., Brown 2011; Dawes, 2008; de Winter and Dodou, 2010; Mondiana et al., 2018; Priluck 2023, among others). The research examines customer satisfaction from both a transaction-specific and cumulative perspective (Anderson et al., 1994; Bayus, 1992; Macintosh & Lockshin, 1997; Oliver, 1980). When customers cumulatively evaluate customer satisfaction, the focus is on a comprehensive evaluation of their experience with a retailer across multiple interactions and experiences (Theodoridis & Chatzipanagiotou, 2009). As grocery shopping is more frequent for most consumers compared to other shopping categories, this study defines customer satisfaction as the customers' overall evaluation of their preferred grocery retailer. We measured *customer satisfaction* using a five-item scale to assess satisfaction with consumers' primary grocery retailer (agreement) (Demoulin & Willems, 2019; Gibson et al., 2022). *Loyalty* was measured using a four-item scale to assess consumers' loyalty and willingness to recommend the primary grocery retailer (agreement) (Cotarelo et al., 2021). We measured the *perceived barriers* moderating variable, via an original, eight-item scale assessing consumers' perceptions of common complaints/issues associated with using BOPIS or curbside grocery shopping (agreement) based on a review of the literature. Finally, *BOPIS* and *curbside pickup future usage intentions* were each measured using a three-item scale assessing the consumers' future likelihood of using either BOPIS or curbside pickup for grocery shopping.

RESULTS

Measurement model results

We used confirmatory composite analysis with 5,000 bootstrapped iterations in SmartPLS 4.0 to assess the validity and reliability of our measurement models (Sarstedt et al., 2022). Following Hair et al. (2020), we assessed the factor loadings, indicator and composite reliability,

average variance extracted (AVE), and confirmed convergent and discriminant validity (Hair et al., 2020). As shown in Table 3, 21 of the 23 item coefficients exceeded 0.7, with the other two items just slightly below the cutoff (0.651 and 0.676), and are significant at $p < .001$, meeting the threshold for adequate indicator loadings. Internal consistency standards were met in that coefficient alpha, composite reliability, and rho estimates for the latent reflective constructs also exceeded 0.7. Convergent validity was established given the AVE for each of the constructs and models exceeded 0.5. The square root of the AVE also exceeded all paired correlations, and the HTMT ratio correlations confirmed discriminant validity (Hair et al., 2020; Henseler et al., 2016). Lastly, the achieved R^2 values for loyalty (0.534), BOPIS usage intentions (0.154), and curbside

Table 2. Measurement items

Construct and Measurement Items	
Satisfaction (SAT; 1 = *strongly disagree* to 5 = *strongly agree*)	
SAT1	When compared to other supermarket stores, I am more satisfied with this store brand
SAT2	This store brand meets my expectations
SAT3	This store fulfills my needs
SAT4	This store provides a reliable shopping experience
SAT5	OVERALL, I am very satisfied when I shop at this store
Loyalty (LOY; 1 = *strongly disagree* to 5 = *strongly agree*)	
LOY1	I am a loyal customer of this store brand
LOY2	I care about the long-term success of this store brand
LOY3	When other people ask me about this store brand, I will say positive things about it
LOY4	I will recommend this store brand to others who seek my advice
Barriers (BAR; 1 = *strongly disagree* to 5 = *strongly agree*)	
BAR1	Items I want will be out of stock
BAR2	Produce items selected for me will not be what I would choose myself
BAR3	Items selected for me will not be as fresh as I would choose myself
BAR4	I will have to wait too long from the time I place my order to when it is ready
BAR5	Grocery retailers will likely substitute items without my approval
BAR6	Grocery retailers will not keep me informed throughout the process
BAR7	Poor packaging is sometimes a notable issue of online grocery shopping
BAR8	One pitfall of online grocery shopping is the online payment issues
BOPIS Usage (BOPIS; 1 = *strongly disagree* to 5 = *strongly agree* or 1 = *very unlikely* to 5 = *very likely*)	
BOPIS1	Overall, I would like to use the BOPIS option frequently (agreement)
BOPIS2	I have recently used the BOPIS option for my grocery shopping (agreement)
BOPIS3	I will buy groceries online for in-store pickup (BOPIS) in the next 3 months while shopping for groceries (likelihood)
Curbside Pickup Usage (CURB; 1 = *strongly disagree* to 5 = *strongly agree* or 1 = *very unlikely* to 5 = *very likely*)	
CURB1	Overall, I would like to use the Curbside pickup option frequently (agreement)
CURB2	I have recently used the Curbside pickup option for my grocery shopping (agreement)
CURB3	I will buy groceries online for Curbside pickup in the next 3 months while shopping for groceries (likelihood)

pickup usage intentions (0.259) suggest adequate predictive validity (Hair et al., 2020). We mitigated common method bias through survey design and also checked for issues via post-hoc analyses (Podsakoff et al., 2003). First, Harman's single-factor method shows a single factor only explained 32% of the variance. Second, the marker variable approach indicated no significant differences for the structural path coefficients or R^2 measures (Rönkkö & Ylitalo, 2011). Thus, common method bias does not appear to be an issue in the present study.

Table 3. Convergent validity assessment.

	Factor Loadings	AVE	α	CR (rho_a)	CR (rho_c)	Mean	SD	R2
Satisfaction (SAT)								
SAT1	.837	.772	.926	.928	.944	4.43	0.66	n/a
SAT2	.855							
SAT3	.913							
SAT4	.876							
SAT5	.909							
Loyalty (LOY)								
LOY1	.854	.806	.919	.925	.943	4.25	0.81	.534
LOY2	.871							
LOY3	.931							
LOY4	.932							
Perceived Barriers (BAR)								
BAR1	.651	.578	.897	.916	.916	3.16	0.86	n/a
BAR2	.827							
BAR3	.836							
BAR4	.745							
BAR5	.792							
BAR6	.753							
BAR7	.784							
BAR8	.676							
BOPIS Usage (BOPIS)								
BOPIS1	.913	.831	.898	.906	.936	1.97	1.11	.154
BOPIS2	.929							
BOPIS3	.891							
Curbside Pickup Usage (CURB)								
CURB1	.945	.909	.950	.954	.968	2.13	1.39	.259
CURB2	.961							
CURB3	.953							

Antecedents to BOPIS and curbside pickup future usage

We tested model hypotheses using a bootstrap sample of 5,000 in SmartPLS 4.0 (see Table 4). First, we verified the customer satisfaction to loyalty link was positive and significant (β =

.731, p = 0.001), thus H1 was supported. We then examined the antecedents to BOPIS future usage. Satisfaction did not have a significant direct effect on BOPIS future usage (β = -.068, p = 0.449), thus H2 was not supported. However, loyalty did have a significant positive effect on BOPIS future usage (β = 0.189, p = 0.041), supporting H4. Although not hypothesized, we also examined if satisfaction's effects on BOPIS future usage are fully mediated through loyalty given the non-significant direct path. Satisfaction's indirect effect on BOPIS future usage through loyalty was positive and significant (β = 0.138, p = 0.05), indicating a consumers' loyalty to their primary grocery retailer fully mediates the effect of satisfaction on BOPIS future usage.

Table 4. Tests of hypotheses

Hypotheses and Paths			Path Coef (β)	t-value	p-value	Support
H1 Satisfaction	→	Loyalty	.731	15.911	.001	Yes
H2 Satisfaction	→	BOPIS usage	-.068	0.757	.449	No
H3 Satisfaction	→	Curbside pickup usage	-.011	1.196	.232	No
H4 Loyalty	→	BOPIS usage	.189	2.041	.041	Yes
H5 Loyalty	→	Curbside pickup usage	.235	2.775	.006	Yes
H6 Barriers*Loyalty	→	BOPIS usage	-.218	2.582	.010	Yes
H7 Barriers*Loyalty	→	Curbside pickup usage	-.289	3.384	.001	Yes

Note. All two-tailed tests. Barriers*Satisfaction moderation effects are not tested since satisfaction direct effects on usage are not significant.

Specific to curbside pickup future usage intentions, the results again show that satisfaction does not have a significant direct effect on curbside pickup future usage (β = -.011, p = 0.232), thus H3 was not supported. Loyalty once again had a significant positive effect on curbside pickup future usage (β = 0.235, p = 0.006), supporting H5. Similar to BOPIS, we again examined the specific indirect effect of satisfaction through loyalty and found a significant positive effect (β = 0.171, p = 0.012), indicating loyalty once again fully mediates the effects of satisfaction on curbside pickup future usage.

Moderating effects of BOPIS/curbside pickup barriers

Finally, we tested the moderating effects of perceived barriers on the paths from loyalty to each grocery fulfillment option. Perceived barriers associated with curbside pickup orders had a significant negative moderating effect on loyalty's relationship with (a) BOPIS (β = -.218, p = 0.01) and (b) curbside pickup (β = -.289, p = 0.001) future usage intentions, supporting H6 and H7. Notably, the moderation findings demonstrate that senior consumers who anticipate more issues with grocery shopping online for curbside pickup are less likely to see value in using the curbside pickup option despite having relatively high satisfaction and loyalty to their primary grocery retailer. The findings confirm industry studies that show elderly consumers are more likely to prefer in-store shopping experiences while anticipating greater issues associated with common

online grocery shopping complaints (ChaseDesign, 2022). Additionally, we controlled for in-store shopping preferences by using consumers' self-reported likelihood to shop in-store for groceries (mean=4.59) as a proxy measure. While senior consumers' likelihood to shop in-store is significantly higher than senior consumers' intention to use either BOPIS or curbside pickup, controlling for this preference did not change the significance or direction of any pathways in our model.

Analysis of perceived barriers

Given the significant moderating effects of perceived barriers, we conducted additional analyses to better understand how elderly consumers differ in anticipating commonly cited issues with curbside pickup grocery shopping. Table 5 presents mean scores for the individual statements for (a) all elderly consumers, (b) a comparison of elderly male vs. female consumers, (c) a comparison of elderly consumers that self-reported their personality as anxious/easily upset vs. not, and (d) a comparison of elderly consumers that self-reported their personality as critical, quarrelsome/aggressive. Beyond comparing findings across the perceived barriers, we also examined differences across the other scale items in our study. As shown in Table 5, senior consumers who view their personality as either anxious/easily upset or critical, quarrelsome/aggressive tend to anticipate more issues with BOPIS/curbside pickup grocery shopping and tend to be less satisfied and less loyal to their primary grocery retailer. Interestingly, those who are more anxious/easily upset tend to indicate slightly higher future usage intentions of both BOPIS and curbside pickup, which seems to align with consumers who choose these options to avoid social interactions from in-store shopping. Gender differences also provide interesting insights for grocery retailers, with elderly females anticipating fewer issues relative to elderly males. Grocery retailers seeking to increase online grocery shopping among senior consumers may want to focus on the elderly female consumer segment given these nuanced findings.

DISCUSSION

The current study offers insights into the complex relationship between consumer satisfaction, loyalty, and future usage intentions, specifically within the context of senior consumers utilizing BOPIS and curbside pickup grocery shopping services. Contrary to common expectations, our results indicate that satisfaction with an existing grocery retailer does not have a significant direct effect on the future usage intentions for either BOPIS or curbside pickup shopping among elderly consumers. This finding diverges from existing consumer behavior research that posits a direct link between satisfaction and future behavior (Anderson & Sullivan, 1993; Oliver, 1980). Instead, our study indicates customer loyalty is a critical mediator between cumulative satisfaction and omnichannel patronage intentions when it comes to senior consumers and omnichannel service interactions in the grocery retail context such as BOPIS and curbside pickup. In our study, loyalty fully mediated the relationship between satisfaction and future usage intentions. This suggests a re-evaluation of the direct satisfaction-behavior relationship in the context of elderly consumers and omnichannel shopping and order fulfillment service contexts such as BOPIS and curbside pickup. The findings align with the broader consumer satisfaction and dissatisfaction literature which asserts the critical role of loyalty as a mediator in the satisfaction-behavior linkage (Dahl & Peltier, 2015; Nowak et al., 2023). Our study extends this understanding to the relatively unexplored domain of elderly consumers' digital-enabled shopping behaviors, emphasizing the nuanced nature of these relationships.

Our findings also highlight the critical impact of perceived barriers on continued usage of BOPIS and curbside pickup services. Grocery retailers should invest in addressing these barriers in combination with understanding preferences for in-store shopping, personalization, and other shopping motivations (Gibson et al., 2024). Initial solutions could involve simplifying the online shopping process, ensuring reliable and efficient pickup services, and providing comprehensive yet cost-effective customer support, including FAQs and video tutorials, to ensure a smooth experience. Educating senior consumers about the ease and benefits of using BOPIS and curbside pickup services may also help in reducing perceived barriers. Although it is important to reduce perceived barriers and avoid service failures, it is also equally vital to effectively bounce back from service failures. For example, past research found that when a hospitality firm achieves satisfactory recoveries, customers are more inclined to discuss their experiences, to share information within a broader social network, and to influence others to choose the service provider (Swanson & Hsu, 2011).

Finally, the findings on gender and personality differences among elderly consumers suggest the need for more nuanced marketing and operational strategies. Grocery retailers should consider developing marketing strategies that address the specific concerns and preferences of different segments within the senior consumer population. For example, messaging for elderly females might emphasize safety and convenience, while communication with elderly males might focus on efficiency and reliability. Recognizing the personality traits of senior consumers can also guide the development of more personalized services. For senior consumers who identify as anxious or easily upset, offering services that minimize social interaction, like express BOPIS lanes or designated curbside pickup spots, may also be beneficial. For those who are more critical or quarrelsome, ensuring impeccable service quality and providing efficient problem-resolution mechanisms for commonly anticipated issues (i.e., stockouts, freshness issues) are likely to be important to avoid complaining from these elderly consumers. Finally, implementing robust feedback systems and prompt help (e.g., with a visible "help here" button to push for troubleshooting assistance) that allow senior consumers to voice their concerns and preferences may help grocery retailers refine BOPIS and curbside pickup service offerings to better meet the needs of the senior consumer segment.

LIMITATIONS AND FUTURE RESEARCH

Despite its contribution, our study contains several limitations. Since we used a cross-sectional survey of senior U.S. consumers, future research is necessary that explores this topic in other countries and via longitudinal research designs. Although we address perceived barriers that may explain why BOPIS and curbside pickup interactions have subsided post-COVID (Aull et al., 2021), other factors such as customers' hedonic shopping preferences may also explain how senior consumers evaluate these omnichannel shopping options. For example, although we control for in-store shopping intentions, a comprehensive evaluation of in-store shopping preferences in conjunction with online shopping preferences may offer further insights. Senior consumers may prefer the personal interactions of an in-store experience. However, retailers have shifted to self-checkout and other mechanisms that remove some of the personal interactions consumers prefer. In comparison, the online shopping experience may offer greater opportunities for personalization. Future research may dive further into these nuanced preferences and experience assessments across different age cohorts. We also rely on self-report measures from senior consumers, retailers will benefit from research that leverages actual shopping data. Additionally, while we asked

Table 5. Comparison of Means

		Gender		Anxious, easily upset.		Critical, quarrelsome/ aggressive	
	Total	**Male**	**Female**	**Low (1-3)**	**High (4-5)**	**Low (1-3)**	**High (4-5)**
SAT1 - When compared to other supermarket stores, I am more satisfied with this store brand	4.30	4.30	4.29	4.35	3.84	4.32	3.96
SAT2 - This store brand meets my expectations	4.37	4.42	4.34	4.41	4.06	4.40	4.13
SAT3 - This store fulfills my needs	4.48	4.51	4.45	4.50	4.31	4.51	4.13
SAT4 - This store provides a reliable shopping experience	4.50	4.48	4.52	4.53	4.31	4.53	4.22
SAT5 - OVERALL, I am very satisfied when I shop at this store	4.48	4.45	4.50	4.51	4.28	4.51	4.13
LOY1 - I am a loyal customer of this store brand	4.25	4.18	4.30	4.28	4.00	4.27	3.96
LOY2 - I care about the long term success of this store brand	4.16	4.04	4.25	4.19	3.91	4.19	3.83
LOY3 - When other people ask me about this store brand, I will say positive things about it	4.32	4.23	4.39	4.36	4.00	4.34	4.00
LOY4 - I will recommend this store brand to others who seek my advice	4.27	4.18	4.35	4.31	4.00	4.30	3.96
BAR1 - Items I want will be out of stock	3.15	3.13	3.17	3.11	3.53	3.13	3.43
BAR2 - Produce items selected for me will not be what I would choose myself	3.82	3.91	3.75	3.80	3.97	3.77	4.35
BAR3 - Items selected for me will not be as fresh as I would choose myself	3.64	3.78	3.53	3.64	3.69	3.61	4.04
BAR4 - I will have to wait too long from the time I place my order to when it is ready	2.90	3.05	2.79	2.89	3.03	2.86	3.39
BAR5 - Grocery retailers will likely substitute items without my approval	3.16	3.25	3.08	3.15	3.25	3.13	3.48
BAR6 - Grocery retailers will not keep me informed throughout the process	3.07	3.14	3.01	3.05	3.25	3.03	3.48
BAR7 - Poor packaging is sometimes a notable issue of online grocery shopping	2.93	3.05	2.84	2.93	3.00	2.90	3.30
BAR8 - One pitfall of online grocery shopping is the online payment issues	2.60	2.58	2.63	2.58	2.81	2.60	2.70
BOPIS1 - Overall, I would like to use the BOPIS option frequently	2.22	2.06	2.34	2.20	2.31	2.25	1.78
BOPIS2 - I have recently used the BOPIS option for my grocery shopping	1.86	1.74	1.96	1.85	2.00	1.89	1.52
BOPIS3 - Buy groceries online for in-store pickup (BOPIS)	1.83	1.72	1.92	1.81	1.94	1.85	1.52
CURB1 - Overall, I would like to use the CURBSIDE pickup option frequently	2.31	2.05	2.52	2.27	2.59	2.34	1.91
CURB2 - I have recently used the CURBSIDE pickup option for my grocery shopping	2.00	1.80	2.17	2.00	2.06	2.04	1.61
CURB3 - Buy groceries online for curbside pickup	2.09	1.81	2.32	2.10	2.03	2.13	1.57

respondents to consider their overall experiences with the preferred grocery retailer, future researchers may want to specifically measure the in-store and online experiences separately, as well as via an explicitly labeled "overall experience." Retailers may also want to measure individual visit experiences and where possible link respondents' answers across several interactions to monitor shifts in satisfaction/loyalty based on individual service encounters/store visits, particularly in cases where senior consumers utilize BOPIS/curbside pickup. Furthermore, although we focus on cumulative satisfaction and loyalty measures along with perceived barriers, other contextual factors may also influence senior consumers' value expectations and usage intentions (Akaka & Parry, 2019). Future research on senior consumers' satisfaction, complementing, and complaining behavior in the grocery shopping context should address the cumulative and complex nature of the satisfaction-loyalty link, particularly when examining omnichannel technology-enabled service interactions. Similarly, a more holistic evaluation of preferences is necessary that simultaneously addresses how consumers experience value-in-use across in-store, BOPIS, curbside, and other omnichannel interactions (Gibson et al., 2024). Finally, innovative fulfillment methods continue to emerge beyond BOPIS/curbside pickup such as in-home delivery services (e.g., Walmart's InHome service, Amazon Key In-Garage service), which provide in-home delivery even when customers are away. Research is thus necessary to understand consumer experiences and behavioral intentions of these services with the objective of improving convenience for grocery shoppers of all age groups.

CORRESPONDING AUTHOR:
Samantha C. Gibson, DBA
Assistant Professor of Marketing
Rockwell School of Business
Robert Morris University-Pittsburgh
6001 University Blvd.
Moon Township, PA 15108 USA
Phone: +1- 412-397-6380
Email: gibsons@rmu.edu

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