

Why do people purchase from food delivery apps? A consumer value perspective

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ABSTRACT

Consumers are increasingly using food delivery apps (FDAs) to facilitate convenient and quick food delivery. Yet, the existing research offers a limited understanding of consumers' behavioral responses to the visibility and values derived from FDAs. Our study utilized the theory of consumption values (TCV) to examine associations between FDA visibility, consumption values, and purchase intentions. The mediating role of consumption values and the moderating role of attitude was also studied. A qualitative study was conducted with 15 FDA consumers to derive context-specific consumption values. Responses from 355 FDA consumers from the United States of America (USA) were obtained through *Prolific* and analyzed using structural equation modeling. Visibility acted as an antecedent of all consumption values and significantly influenced purchase intentions. Attitude also positively and significantly influenced purchase intentions. Consumption values partially mediated the association between visibility and purchase intention, while attitude negatively moderated the relationship that purchase intention has with visibility and preference value. These findings have important implications for theory and practice.

1. Introduction

The emergence of online-to-offline (O2O) platforms has created a significant disruption in the hospitality sector by amalgamating digital promotions and sales of products and services through physical channels (Kaur et al., 2021; Talwar et al., 2021b; Xu, 2017; Xu and Huang, 2019). Food delivery apps (FDAs) are a specific type of O2O platform that capitalizes on consumers' extensive use of smartphones, mobile internet, and navigational services (Kaur et al., 2020b; Hwang and Kim, 2019; Talwar et al., 2021b). These represent the platform-to-consumer market segment, which is estimated to generate a projected market volume of USD 79,608 million in 2021, with the highest revenues being drawn from China (approximately USD 56,936 million), the United States (approximately USD 28,486 million), and India (approximately USD 11,666 million) (Statista, 2020a). These figures indicate consumers' growing acceptance of FDAs, which, during the lockdown

instituted due to the coronavirus (Covid-19) pandemic, have been steadily gaining popularity due to the rise of novel features, such as 'contactless delivery', which have the potential to reassure consumers of the limited risk of exposure to the virus while availing themselves of food delivery (Businesswire, 2020; Statista, 2020b).

The significant popularity that FDAs have gained in both developed and emerging countries can be attributed to reasons related to their capacity to (a) facilitate convenient and swift food delivery to customers' doorsteps (Xu, 2017) and (b) provide restaurants with more opportunities to increase revenue without increasing restaurants' seating capacities (Xu and Huang, 2019). Several changes in consumer lifestyles have increased the acceptance of FDAs, such as busy work schedules (Ray et al., 2019). Moreover, FDAs are especially relevant for certain urban consumers for whom food delivery presents a viable response to the demands of a fast-paced lifestyle (Kaur et al., 2021). For example, young consumers may be more proactively inclined to utilize

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FDAs (Statista, 2020b) due to their extensive use of technological platforms, including mobile phones and apps. Scholars have suggested that the affordances of FDAs may also account for their popularity (Ray et al., 2019). For instance, FDAs provide promotional offers, search results based on a user's order history, and the option to give feedback on consumed services (Hwang and Kim, 2019; Ray et al., 2019).

FDAs' disruptive impact on the market, especially food retailing, has attracted scholarly attention concerning the many ways in which consumers interact with FDAs. For example, studies have examined factors that influence consumers' FDA usage intention (Yeo et al., 2017) and the impact of a consumer's value system on their decision to adopt FDAs (Kaur et al., 2021). However, as the research in this field is still nascent, there are distinct gaps in the current knowledge and understanding. First, only a few studies in the prior literature have explored the factors that affect consumers' decision-making processes and intentions to use such food apps (Kaur et al., 2021; Ray et al., 2019; Xu and Huang, 2019). Second, relatively few studies have explored the role of consumers' attitudes and their categorical value preferences for using FDAs on the adoption and use of this platform (e.g., Ray et al., 2019; Wang et al., 2020a). Third, our review of the academic studies suggests that a theory-driven exploration of consumers' behavior toward FDAs has mainly relied on theories aligned to technology usage and acceptance (e.g., Yeo et al., 2017). Although these theories provide insight into the technology-oriented factors that drive FDA adoption, they offer a limited understanding of intentions, usage motivations, and gratifications that facilitate consumers' FDA use (Ray et al., 2019). We aimed to address these gaps by testing a research framework grounded in the theory of consumption values (TCV) (Sheth et al., 1991).

Our study makes a three-fold contribution to existing knowledge. First, it examines FDAs in the context of the USA, a developed economy, where FDAs are witnessing intense competition; this, in turn, has made it difficult for the leading competitors like DoorDash, GrubHub, and UberEats to produce strong profits (Curry, 2021). Although FDAs have received significant attention in the recent past, only a few studies have focused on investigating FDAs in the context of the USA (e.g., Belanche et al., 2020; Gunden et al., 2020). We chose the USA as our study context because it is (a) projected that the number of smartphone FDA app users in the USA would grow up to 53.9 million by 2023 (Statista, 2020b), (b) the post-Covid-19 market share of online food delivery in this market is expected to grow to approximately 25 percent by 2025, and (c) an estimated 82.3% of the population in the USA resides in urban areas (Statista, 2020a), which, according to a recent report, are popular consumption areas for FDAs and online food delivery services due to Covid-19 (Statista, 2020b). Given the overall scarcity of theory-driven academic research on FDAs and O2O, as well as the consumption values driving their usage in the context of this economy, we expected our findings to generate significant insights.

The second significant lacuna we identify in the literature relates to the prior examination of visibility—that is, the extent of advertising, observability (Kaur et al., 2020a; Talwar et al., 2020a), and usage of an innovative product as observed by other consumers (Johnson et al., 2018; Driediger and Bhatiasavi, 2019)—which is considered an antecedent of consumers' decision-making (Talwar et al., 2020a). This study is a forerunner in examining visibility as an antecedent of consumption values, which has received limited attention in the hospitality sector (Kaur et al., 2021; Talwar et al., 2020a, b). For instance, in a recent study, Kaur et al. (2021) determined visibility to be a strong predictor of FDA purchase intentions in the context of Indian consumers. Driediger and Bhatiasavi (2019) examined the association between visibility and consumers' perceived usefulness in the context of online grocery shopping. They found the association to be insignificant but posited the need for cross-cultural examination of visibility as an antecedent to consumers' perceived usefulness, which could subsequently influence purchase intentions. Talwar et al. (2020a) found visibility to moderate the association between preference value and purchase intentions. In another study, Talwar et al. (2020b) found that visibility moderated the

association between consumers' perceived benefit-related barriers and purchase intentions. Lastly, Johnson et al. (2018) found that visibility significantly influences consumers' intent to use mobile applications, such as mobile payment services. We presumed that visibility would have a similar influence on context-specific consumption values, ultimately affecting purchase intentions from FDAs. Since prior studies examining the construct of visibility have provided diverse findings, our study contributes to the literature by reporting the influence of visibility on consumption values, and subsequently, consumers' intent to purchase from FDAs.

The third contribution of our study rests in our exploration of a new pathway for studying the influence of consumption values on a consumer's purchase intentions. Prior studies in fields, such as tourism (Jamrozy and Lawonk, 2017; Talwar et al., 2020a), food-related choices (Kaur et al., 2021; Jebarajakirthi et al., 2021; Ray et al., 2019), and the general hospitality sector (Peng et al., 2020) have also examined the influence of consumption values on consumers' purchase intentions. However, the novelty of our study rests in investigating whether the visibility generated through the observation of peers' use and marketing communication (i.e., advertisements) affects consumers' FDA usage intention by influencing their consumption values. To our understanding, this is the first study to examine the mediating influence of consumption values on the relationship between visibility and purchase intention.

Lastly, the study examined context-specific consumption values relating to FDA usage compared to utilizing generic consumption values suggested by the prior literature. Recent hospitality studies (e.g., Kaur et al., 2021; Talwar et al., 2020a) have called for scholars to study context-specific consumption values because these provide a more nuanced understanding of what consumers seek. Thus, we formulated three research questions (RQs):

RQ1. What is the association between visibility, attitude, context-specific consumption values, and purchase intention in the FDA context?

RQ2. Do consumption values mediate the association between visibility and purchase intention in the FDA context?

RQ3. Does attitude moderate the associations between visibility, context-specific consumption values, and purchase intention in the FDA context?

We evaluated 355 responses to a cross-sectional survey using structural equation modeling (SEM) to address these questions. The findings offer novel insights into the behavior of FDA consumers in the USA, a developed economy, by elucidating (a) the significant association of visibility, as an antecedent, with context-specific consumption values and purchase intention and (b) the partial mediating influence of context-specific consumption values on the association between visibility and purchase intention.

2. Theoretical framework and hypotheses

TCV offers a way to understand how consumers decide to purchase (or not) and choose a particular product from a range of available products and brands (Sheth et al., 1991). We utilized TCV as a theoretical lens in this study for three main reasons. First, it is a well-established and widely used theoretical framework to study the nuances of consumers' purchase behavior (Kaur et al., 2021; Choe and Kim, 2019) and continuance intentions (Dhir et al., 2020). This theory has been previously used in the context of digital technologies and services (see, e.g., Kaur et al., 2021; Dhir et al., 2020; Talwar et al., 2020a), including the use of social media for facilitating improved brand experience (Carlson et al., 2019). Second, the prior literature has indicated that TCV has contributed to the elucidation of consumer behavior in contexts similar to the present study, such as food (Choe and Kim, 2019; Kaur et al., 2021; Kushwah et al., 2019), hospitality (Talwar et al.,

2020a; Peng et al., 2020), tourism (Jamrozky and Lawonk, 2017) and on-the-go consumption, that is, purchase and consumption of food or beverages, while a consumer is in transit (Jebarajakirthy et al., 2021). Third, TCV encompasses both cognitive and affective aspects of consumption and generates a multi-dimensional and holistic comprehension of associated values (Kaur et al., 2021; Talwar et al., 2020a). Hence, it is important to understand the consumption values that positively influence consumers' intentions and behavioral responses to FDAs.

According to TCV, five types of mutually exclusive consumption values initiate and drive consumers' purchase behavior, including the intention to purchase or use—namely, functional, social, emotional, epistemic, and conditional values (Sheth et al., 1991). However, TCV provides only a generic conceptualization of these values. Recent hospitality literature has suggested that scholars should investigate context-specific consumption values to obtain nuanced insights into consumer behavior (Talwar et al., 2020a). Thus, we utilized TCV to identify and test context-specific consumption values concerning FDA use (see Fig. 1).

2.1. Context-specific consumption values

Consumption values have unique patterns of manifestation among consumers from different cultural and ethnic backgrounds (Tse et al., 1988), suggesting the need to examine their manifestation in specific contexts. To derive FDA-specific consumption values, a qualitative study was conducted wherein participants were recruited through convenience sampling.

2.1.1. Qualitative study: explicating FDA specific values

In the first step, 10 FDA consumers (six males, four females, all above 20 years old) were recruited to participate in interviews via telephone and Zoom (e.g., Talwar et al., 2020a) to provide insight into

consumption values specific to the FDA context. The participants had used FDAs at least twice a week for the six months preceding the interviews, and confirmed viewing of at least two FDA advertisements in the past week. They had posted at least two negative and two positive reviews about the services provided by the FDA on the feedback page. These criteria were utilized to ensure that participants could give genuine insights about the positive as well as negative aspects of FDA usage and their derived consumption values thereof.

The interviews were focused on understanding the motives behind the use of FDAs for daily routines. Two researchers were involved in conducting these interviews and took notes. The interviews were also recorded and transcribed into the English language by the researchers. Each interview lasted for 20–30 min, and participants were asked questions related to their view of FDA advertisements, peer usage of FDAs, their perceptions, and value expectations from these platforms. The interview included questions related to the five forms of consumption values indicated by TCV: functional, social, emotional, epistemic, and conditional values. The grounded theory approach (Talwar et al., 2020a) was utilized to perform the content analysis and derive specific consumption values associated with FDA usage. The results of this analysis suggested that three of the five forms of value were pertinent to the study context, with these context-specific values reflecting generic TCV tenets of functional, social, and conditional values. Subsequently, we examined prior empirical studies that employed TCV in the context of mobile apps and the hospitality sector (Peng et al., 2020; Talwar et al., 2020a). In line with the insights derived from this examination and the qualitative study, we developed an initial set of nine items for each derived consumption value related to FDA use.

In the second step, an expert panel comprising of three professors from the fields of marketing, hospitality management, and information systems examined the developed measures and associated items. The panel reviewed the items for relevance and face validity. The panel

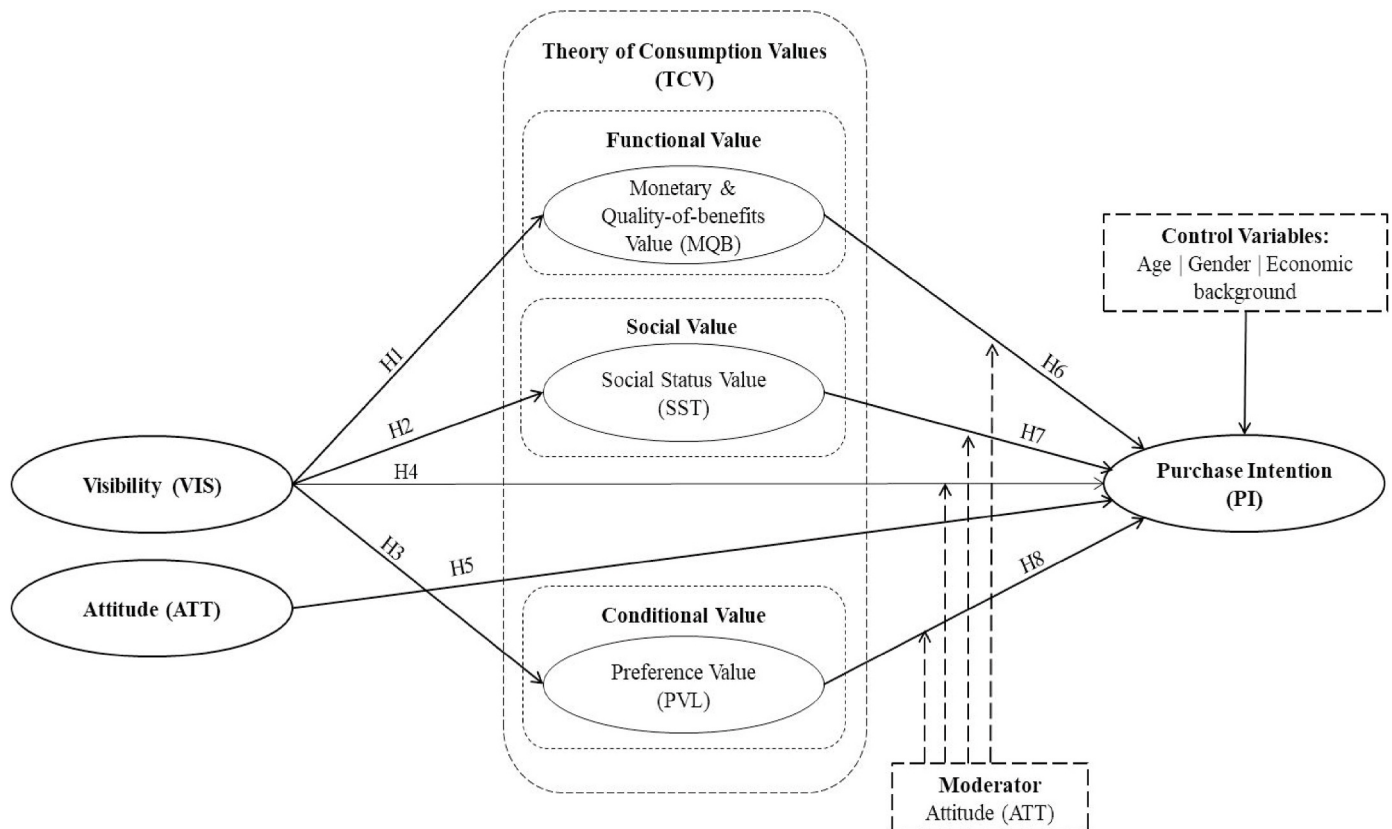


Fig. 1. Hypothesized Research Model

Note: Moderated relationships and generic consumption values are shown with dashed arrows and solid lines and denote context-specific consumption values.

recommended deleting three items from the pool and suggested minor modifications in the framing of six items. Their suggestions were incorporated, and the panel again inspected the new pool of items. This process was conducted in conformity with protocols recommended by Saunders et al. (2016) and yielded items for three FDA-specific consumption values: functional, social, and conditional values. Our process was also in alignment with other studies that have followed a similar approach to derive context-specific values (e.g., Kaur et al., 2021).

2.1.2. Derived context-specific values

Functional values refer to utilitarian aspects of a product or service, such as reliability, quality, and price (Kaur et al., 2021; Talwar et al., 2020a). In the context of the current study, the results of the qualitative analysis suggest that for FDA consumers, functional value pertains to the monetary and quality-of-benefits values (MQB) offered by the service. The inclusion of monetary value (or price) as an aspect of functional value is consistent with prior studies conducted in the context of hospitality and tourism, which indicate that price is often a salient aspect of functional value associated with a service (e.g., Carlson et al., 2019; Choe & Kim, 2011; Talwar et al., 2020a). Consumers generally assess social value based on the association and relevance of a product or service within their social group (Wang et al., 2020a). In the present study context, this reflects a perceived gain in social status from using FDAs (e.g., Talwar et al., 2020a). Lastly, conditional value is concerned with temporally constrained benefits that a product or service provides, contingent upon specific situations (Wang et al., 2020a). In the present study, context-specific conditional value (i.e., preference value) emerged as consumers' preference for FDAs that provide temporary functional benefits, such as free delivery, reduced delivery charges, and on-time delivery. Table 1 presents the conceptualizations and mapping of generic and context-specific values in this study.

Thus, the research model is grounded in TCV, where generic consumption values are mapped into context-specific consumption values using feedback and insights derived from a qualitative study. Visibility acts as an antecedent of the consumption values, and these values later predict intentions to make purchases on FDAs. We examined the mediating role of consumption values between visibility and purchase intention and investigated the moderating role of consumer attitude toward FDAs in the studied relationships (see Fig. 1).

2.2. Visibility and context-specific values

2.2.1. Monetary and quality-of-benefits value (functional value) and visibility

Visibility provides consumers with explicit and pertinent information, which is generally directed toward the overall product (Talwar et al., 2020a, b). The concept of visibility is posited to have been derived from the tenets of the diffusion of innovation theory (Rogers, 2010) and is related to the degree to which potential adopters, or users, are apparently aware of innovative technology, such as FDAs (Driediger and Bhatiasavi, 2019; Kaur et al., 2021). As FDAs are continually adopting innovative measures to attract consumer attention, they may be considered a digital disruptor (Evans, 2019) or innovator. We thus argue that the concept of visibility would apply to FDAs.

Based on prior studies, we posit that visibility may be created by (a) advertising as a particular medium (Kaur et al., 2021) and (b) users' observation of peer usage of an innovative product (e.g., Talwar et al., 2020a, b). Advertising can influence consumer responses by creating a rational appeal focused on product features and characteristics (Kunkel et al., 2019). Research has indicated that different forms of visibility, such as aggressive advertising and infomercials, can influence a consumer's functional values (Zarantonello et al., 2013). Studies have also observed that advertisements highlighting functional values, such as MQB, are most effective in stimulating purchase intentions (Couwenberg et al., 2017). Moreover, Krey et al. (2019) suggested that the emotional aspects of attaining product visibility (e.g., a smartwatch) would influence consumers' perceptions of the potential functional values derived from consumption or usage. In addition, another study on FDAs observed that a business's increased visibility attracts the attention of potential customers (Pigatto et al., 2017). Similarly, in the restaurant context, Hanaysha and Pech (2018) identified word-of-mouth (i.e., visibility generated through observation and discussion of one's own/peers' reactions to adoption or use of a product/service) as a positive mediator of the association of brand prestige with food quality and fair pricing, which are significant functional benefits (i.e., value) for consumers. Therefore, we argue that the visibility of functional aspects will increase the MQB derived from using a service. Hence, we propose the following hypothesis:

H1. Visibility is positively associated with functional value (MQB).

2.2.2. Social status (social value) and visibility

Consumers are attracted to highly visible brands that can help them

Table 1
Study measures and description.

Study measure		General description (reference)	Context-specific description	
Consumption values	Functional Value	Consumer's perceived attainment of desired utility or performance from an available and specific product or service (Sheth et al., 1991)	Monetary and quality-of-benefits value (MQB)	- The monetary value generated through consideration of product/service prices offered by FDAs - Quality-of-benefits value generated through consumers' perceived quality of products/services provided by FDAs
	Social Value	The capacity of a product or its alternative to enhance a consumer's perceived self-image (Khan and Mohsin, 2017)	Social status (SST)	The capacity of FDAs to generate and enhance consumers' perceived self-image, peer approval, and contribution to the advancement of technology integration into human lives
	Conditional Value	The value derived from contingent circumstances that may be faced by consumers during the evaluative consideration, purchase, and consumption of a product (Sheth et al., 1991)	Preference value (PVL)	The capacity of FDAs to deliver preferential values in specific situations through offers related to product pricing, delivery, and marketing promotions
Visibility (VIS)	The extent to which a consumer observes the usage of a product/innovation by others and the extent of advertising generated for a product/innovation (Johnson et al., 2018)		The extent of a consumer's observation of FDA advertisements and usage by other members of their peer, social, and family groups	
Purchase Intention (PI)	The degree of a consumer's likelihood of purchasing a product/service upon their initial decision about accepting or resisting the product/service (Talwar et al., 2020a)		The extent to which a consumer intends to purchase from and recommend an FDA to others, including members of their peer, social, or family groups	
Attitude (ATT)	The degree of favorability (or unfavorable appraisal) of behavior as evaluated by an individual consumer (Ajzen, 1991)		A consumer's positive (or negative) assessment of purchasing through an FDA based on perceived convenience, satisfaction, and pleasure associated with FDA use	

display their wealth (Chan et al., 2015) and enhance their social status (Kastanakis and Balabanis, 2014). Similar to the notion of conspicuous consumption, which is related to purchasing products and services to enhance one's social status (He et al., 2012), this preference for highly visible brands reflects a desire to attain social value through consumption. Research has indicated that social value is an important consideration for consumers who opt for mobile-based commerce platforms (Dastane et al., 2020) like FDAs. Visibility can help consumers derive perceived social status (i.e., value) from their purchases, which may significantly affect their purchase intentions. Similar associations may exist in the FDA context—that is, consumers may engage with FDAs to attain social status and approval. Moreover, consumers may feel comparatively smarter due to their use of FDAs as it enables them to enhance the integration of technology with their daily lives. Thus, we hypothesize that a positive association exists between visibility and social value, which we term “social status value.”

H2. Visibility is positively associated with social status value.

2.2.3. Preference value (conditional value) and visibility

Consumers may derive perceived value from social or physical contingencies—that is, conditional aspects associated with consumption (Sheth et al., 1991). By using specific interventions to enhance product or service visibility, businesses can employ several conditional elements to induce consumer purchases and establish a preference for product consumption. For instance, such aspects may pertain to lower lead time for the product delivery (Piotrowicz and Cuthbertson, 2019; Xu, 2017), special pricing or promotional offers (Hwang and Kim, 2019), and discounts (Lin and Huang, 2012). According to Piotrowicz and Cuthbertson (2019), retailers often emphasize advertising to enhance the visibility of price-related conditional elements (e.g., free delivery for a specific period). Furthermore, Lin and Huang (2012) posited that the visibility of product attributes, such as environment-friendliness, along with promotional offers might increase perceived conditional value. Thus, we argue that visibility can increase the degree of consumers' perceived conditional value and preference for consuming a service, such as FDAs. This leads us to hypothesize that a positive association exists between visibility and conditional value, which we term “preference value.”

H3. Visibility is positively associated with preference value.

2.3. Visibility and purchase intention

Prior literature has suggested that visibility has a significant positive influence on consumers' intent to use smartphone-based services, such as payments through mobile gateways (Johnson et al., 2018) and online food delivery companies (Pigatto et al., 2017). This may be because increased visibility can lead consumers to believe that they can gain higher popularity by using such services, especially younger adults who make concentrated efforts to manage their impression among their social and peer groups (Kaur et al., 2020a). Prior studies seem to support this supposition in the context of FDAs, as visibility has been found to significantly moderate the association of purchase intention with preference value (Talwar et al., 2020a) and perceived benefit barriers (Talwar et al., 2020b). In a recent study, Kaur et al. (2020a) also found that the visibility, or observability, of a technology-based service, such as m-wallets, was associated with consumers' use behavior in terms of intent to use and recommend it. Accordingly, marketers use various methods to promote product visibility and attract consumer attention to a product or service to increase the likelihood of purchase (Byerly et al., 2018). The literature has further indicated that the use of different methods and approaches (e.g., advertising) to emphasize visibility can significantly affect various aspects of decision-making, such as inducing trust (Teng and Wang, 2015) and willingness to purchase (Teng and Wang, 2015). For example, Kaur et al. (2021) found visibility to significantly influence consumers' purchase intentions for FDAs in the Indian context. Therefore, studying the association between visibility

and purchase intention in the FDA context for consumers in the USA offers an interesting research direction. We, therefore, propose the following hypothesis:

H4. Visibility is positively associated with purchase intention.

2.4. Attitude and purchase intention

Attitude is understood as a consumer's favorable or unfavorable evaluation of a particular behavior (Belanche et al., 2020). In the context of our study, attitude refers to consumers' positive (or negative) assessment of purchasing food through an FDA based on their perception of values derived through such a purchase. Prior literature has extensively examined the association between attitude and purchase intention (Lechuga Sancho et al., 2020) in various contexts, including buying green apparel (Dhir et al., 2021), and FDA consumption (Belanche et al., 2020; Chen et al., 2020). For instance, Belanche et al. (2020) determined a significant influence of attitude on word-of-mouth and use intention for FDAs. In another study, Chen et al. (2020) confirmed that utilitarian and hedonic values act as partial mediators for the relationship between attitude and purchase intentions for FDA services. In addition, studies in other contexts have also reported similar results. For example, Dhir et al. (2021) found environmental attitude to significantly influence an individual's intention to buy green apparel. Tandon et al. (2020), meanwhile, found a significant positive relationship between attitude and purchase intentions in the context of organic food consumption. Thus, keeping in line with prior studies, we also expect a positive and significant influence of consumers' attitude on their FDA purchase intentions and propose the following hypothesis:

H5. Attitude is positively associated with purchase intention.

2.5. Consumption values and purchase intention

2.5.1. Monetary and quality-of-benefits values (functional value) and purchase intention

Scholars have argued that consumers gain value from products that fulfill their practical needs (Kuo et al., 2018). Such value is primarily functional in nature and can be obtained from product attributes associated with quality and price (Kaur et al., 2021; Talwar et al., 2020a). Although monetary and quality-related benefits have been indicated to provide an important basis for consumer decision-making (Perrea et al., 2015), researchers have reported some inconsistencies in the significant influence that functional value exerts in this area. For instance, Jamrozky and Lawonk (2017) found a positive association between functional value, as evaluated by consumers through a service's price and quality, and usage intention relating to ecotourism services. Furthermore, price (Díaz et al., 2012) and quality (Kaur et al., 2020b; Talwar et al., 2021b) appear to be decisive factors that influence the decision-making process regarding food products. Contrarily, Hsu and Lin (2015) detected no influence of performance or quality-related values on consumers' attitudes and intent to use paid mobile apps. The researchers suggested that value for money is a critical factor in determining purchase intention. Since there is arguably a close relationship between smartphone and mobile app users and FDA usage, quality and price (forming the foundation of perceived MQB) may be positively related to purchase intention. Hence, we hypothesize as follows:

H6. MQB is positively associated with purchase intention.

2.5.2. Social status value and purchase intention

Consumers concerned with gaining social value are inclined to attain a desired social status through product and service consumption. Therefore, instead of a product's actual functionality and performance, such consumers may give greater consideration to product attributes that may enhance their self-worth, social approval, and symbolic meaning to others (e.g., Kaur et al., 2021; Talwar et al., 2020a). Scholars

have discussed the significance of experiential purchases in obtaining social value (Gilovich et al., 2015), as they allow consumers to highlight themselves rather than the purchased product (Kim et al., 2016). For example, Kushwah et al. (2019) found a positive association between social value and ethical consumption intentions for organic food products. Talwar et al. (2020a) and Kaur et al. (2021) further found prestige or social value to predict purchase intention among Indian consumers. Similarly, Kuo et al. (2018) found that the use of designer hotels enhanced consumers' perceived self-image and social status, which positively influenced their usage intentions. Individuals' relationships with others (i.e., peers) can also influence their decision to adopt or reject an app (Talwar et al., 2020a; Vahdat et al., 2020). For example, Talwar et al. (2020a) and Dhir et al. (2020) found social value to be positively associated with continuance intentions for online travel services and mobile messaging apps, respectively. Furthermore, organizations have increasingly recognized the importance of social value in recent years and, thus, have focused on promoting products and user-generated content from a social value perspective (Oestreich-Singer and Zalmanson, 2013). Accordingly, we hypothesize that social status value or social status is positively associated with consumers' intentions to purchase services through FDAs.

H7. Social status value has a positive impact on purchase intention.

2.5.3. Preference value (conditional value) and purchase intention

Prior research has yielded inconsistent findings concerning the association between purchase intention and preferential value based on specific conditions or situational contingencies. Studies have revealed negative associations between conditional value and user behavior, such as in the adoption of Islamic mobile banking (Goh et al., 2014), and the intention to purchase green products (Khan and Mohsin, 2017). Contrarily, Hoe et al. (2018) reported the positive influence of conditional value (e.g., subsidies and rebates) on purchase intention in the real estate context. Lin and Huang (2012) similarly suggested that consumers' purchase of food products, such as beverages, snack foods, and breath fresheners, is often in response to situations that facilitate a need for conditional (or preferential) value. Recently, Talwar et al. (2020a) identified preference value as a strong antecedent that positively influenced Indian consumers' purchase intentions toward online travel agencies (OTAs). Kaur et al. (2021) described conditional value as affordances, which they found to significantly influence consumers' intent to purchase FDAs among Indian consumers as well. Finally, Kushwah et al. (2019) found that conditional value also affects individuals' choice behavior in the context of organic food. Given that prior research has found a positive association between conditional value and behavioral responses, we similarly hypothesize:

H8. Preference value is positively associated with purchase intention.

2.6. Mediating influence of consumption values

Scholars have indicated that consumption values play a role in determining consumers' behavioral responses to products and services. Since consumers' values influence their decision-making, we hypothesize that consumption values would account for the relationship between visibility and purchase intention relating to FDAs and enact a positive mediating influence on this relationship. Our supposition is supported by prior studies that have examined consumption values as mediators. For example, Wang et al. (2018) found that consumption values (including price, quality, social, and emotional values) partially mediated the association between environmental knowledge and the intent to visit a green hotel. According to Lien et al. (2018), functional value partially mediated the relationship between positive moods and word-of-mouth (a form of visibility that may be based on an individual's observation of peers' use of a technological product) in the context of mobile banking. Molina-Castillo et al. (2020) also determined that functional value fully mediated the association between learning costs

and intent to use mobile payment apps. Furthermore, Lin et al. (2020) reported a partial mediation effect of both functional and social values on the relationship between social commerce characteristics, organic food, and intent to purchase organic food through online platforms. Therefore, we propose the following hypothesis:

H9. Consumption values mediate the relationship between visibility and purchase intention.

2.7. The moderating influence of attitude

The literature reviewed in the preceding sections highlights the inconsistent findings related to consumers' intentions to use technology-enabled services. These inconsistencies may be attributed to the presence of situational or individual factors that can affect intentions (e.g., Lechuga Sancho et al., 2020). Attitude is one such individual factor that prior studies have shown to influence purchase intentions (Lechuga Sancho et al., 2020), especially in the context of food products (Tandon et al., 2020) and FDAs (Belanche et al., 2020).

While theories, such as the theory of reasoned action (TRA) (Fishbein and Ajzen, 1975) and the theory of planned behavior (TPB) (Ajzen, 1991), have indeed established the mediating role of attitudes between beliefs and behavioral intentions, research on technology acceptance has found this mediating role of attitude to be inconsistent (Davis et al., 1989). However, recent studies have suggested that attitude is a key factor in predicting consumers' behavioral responses to other technology-enabled services, such as mobile apps (Arpaci, 2016). In fact, due to rapid changes in the business environment and their subsequent impact on socio-cultural factors (Leng et al., 2017), it is meaningful to explore whether attitude interacts with consumption values and visibility in driving purchase intention in the FDA context.

Thus, we examine the role of attitude as a moderator of the association between visibility, consumption values, and purchase intention. Talwar et al. (2020a) suggested that examining moderating variables can help scholars elucidate fine-grained differences in individual consumers' behavior. We posit that the prolific use of smartphones and mobile apps would affect consumer attitudes toward performing a targeted behavior (e.g., Wang et al., 2020b), such as purchasing from an FDA, and facilitate a positive moderating impact on the examined associations. Our supposition is consistent with prior studies that have suggested that attitude can enact influence as a moderator (e.g., Kothe and Mullan, 2015; Simiyu et al., 2020). Thus, we propose the following hypothesis:

H10. Users' attitude toward using an FDA moderates the relationship between FDA visibility, consumption values, and purchase intention.

3. Methodology

3.1. Data collection

Prior to the data collection, the survey instrument was piloted with 10 FDA consumers to ensure its clarity and relevance. The pilot study revealed that the survey instrument was concise, and the respondents clearly understood the questions and items. For the final data collection, a cross-sectional research design was employed. Utilizing Google Forms, data was collected through Prolific Academic from FDA consumers in the USA between the ages of 21 and 60. As the aim was to recruit a diverse group of FDA users, the study did not focus on specific FDA service providers. Participants were initially informed about the objectives of the study and the purely academic nature of the survey's inquiry. They were also clearly informed of the voluntary nature of participation and, thus, their freedom to quit at any time during the process. A total of 396 responses were gathered, of which 41 were incomplete and removed from consideration. Valid responses from 355 participants were thus carried forward for analysis. Table 2 reports the participants' demographic profiles. SEM in AMOS was then used to model and analyze

the data.

3.2. Measures

The study utilized pre-validated scales for visibility, purchase intention, and attitude. However, the context-specific consumption values were developed and mapped with measures proposed in previous studies (see Subsection 2.1.2. on context-specific consumption values). To enhance the robustness of our measures, we invited three academic experts in the areas of marketing, hospitality management, and information systems to assess the questionnaire and suggest corrections, if any. The experts proposed minor modifications in the framing of four items to improve face validity, which we incorporated. This yielded the final questionnaire with five factors and items (see Table 3). Attitude was measured through items on a five-point Likert scale, which were adapted from pre-existing scales by Armitage and Conner (1999), Kumar et al. (2021), and Juschten et al. (2019). The items were 'Using the FDA is safe,' 'Using the FDA is pleasant,' 'Using the FDA is satisfying,' 'Using the FDA is good,' 'Using the FDA is gratifying,' and 'Using the FDA is convenient.' Similar items have been previously used in the context of organic and local food (e.g., Kumar et al., 2021; Tandon et al., 2020) and found to be reliable.

3.3. Control variables: age, gender, and economic background

According to prior studies, demographic variables, such as gender, age, and economic background, can influence consumer behavior. For example, age and gender have been observed to significantly influence the association between attitude and intent to generate positive word-of-mouth for drone-enabled food delivery (Hwang and Kim, 2019). In addition, gender has been found to have a moderating influence on consumers' usage of FDAs (Kaur et al., 2021). Similarly, age has been determined to influence the association between attitudes and consumers' behavioral responses to e-commerce (Wang et al., 2020a, b). Additionally, the economic background has been found to affect purchase decisions, such as those relating to organic food (Lin et al., 2020). Similarly, Wang et al. (2019) posited that economic background could significantly impact purchase behavior, which they attributed to the fact that young consumers with increasing disposable incomes have higher expectations and focus on deriving quality-related benefits instead of

Table 2
Participants' demographic profile.

Study Variables	Category	Frequency	Percentage
Age	21–25 years	25	7.0
	26–30 years	102	28.7
	31–35 years	80	22.5
	36–40 years	56	15.8
	41–45 years	32	9.0
	46–50 years	30	8.5
	51–55 years	17	4.8
	56–60 years	13	3.7
	61+ years	10	2.8
Gender	Male	151	42.5
	Female	204	57.5
Economic Background ^a	Low income (less than \$40,100)	90	25.4
	Middle income (\$41,000 - \$120,400)	222	62.5
	Upper income (more than \$120,400)	43	12.1
	Not specified	1	0.3
Educational Background	Completed High school	63	17.7
	Pursuing/completed Professional degree/vocational school	30	8.5
	Pursuing/completed Bachelors	149	42.0
	Pursuing/completed Masters	95	26.8
	Pursuing/completed Doctorate (Ph.D. or equivalent)	18	5.1
	Not specified	1	0.3

^a Categories for economic background were based on the economic profile of respondents from the USA presented in Statista (2020a).

Table 3

Factor loadings for measurement and structural models.

Study Measures	Measurement items	CFA	SEM
Monetary and Quality-of-Benefits Value (MQB) * (Talwar et al., 2020a)	FDAs consistently offer various benefits	.56	.57
	FDAs charge a reasonable price	.90	.90
	FDAs offer good value for money	.93	.93
	Overall I am happy with the prices available on FDAs	.90	.90
Social Status Value (SST)* (Choe and Kim, 2019; Kaur et al., 2021; Talwar et al., 2020a)	Using FDAs helps me gain social approval	.86	.86
	Using FDAs changes the way I am perceived by others	.80	.80
	Using FDAs helps me stand out among my peers	.90	.90
	Using FDAs gives me a chance to show off my FDA experiences to others	.84	.83
	I have higher social status when consuming food ordered from well-known FDAs	.88	.88
	After using FDAs, I feel like a smarter person	.85	.85
Preference Value (PVL)* (Talwar et al., 2020a; Kaur et al., 2021)	I would use FDAs more often if they reduce the delivery charges	.76	.76
	I would use FDAs more often if they offer free delivery	.83	.83
	I would use FDAs more often if better promotional incentives are offered	.75	.75
	All my friends are using FDAs	.61	.613
Visibility (VIS) (Johnson et al., 2018; Kaur et al., 2021; Talwar et al., 2020a)	It is easy for me to observe others using FDAs	.87	.860
	I have had plenty of opportunities to see FDAs being used	.84	.838
	I will use FDAs to order food	.81	.83
Purchase Intention (PI) (Kaur et al., 2021; Talwar et al., 2020a,b)	I will continue to use FDAs to order food	.85	.87
	I will frequently use FDAs to order food	.72	.83
	I am willing to use FDAs to order food	.77	.79
	If I feel like ordering food, I will use FDAs to order food	.73	.75
	Ordering food via FDAs is pleasant	.70	.70
Attitude (ATT) (Armitage and Conner, 1999; Kumar et al., 2021; Juschten et al., 2019)	Ordering food via FDAs is satisfying	.84	.85
	Ordering food via FDAs is good	.80	.81

Note: SEM (structural equation model) refers to structural model factor loadings, and CFA (confirmatory factor analysis) refers to measurement model factor loadings. * = items developed from adapting prior literature and through a qualitative study.

cost. Thus, we considered age, gender, and economic background as control variables to ensure that our findings were independent of differences pertaining to these variables.

3.4. Analytical technique

SPSS 26 and AMOS 26 were utilized to conduct a two-stage covariance based-structural equation modeling (CB-SEM). CB-SEM was used to analyze the data for (a) testing the sequential effects of constructs (Minami and Dawson, 2008) and (b) examining the concurrent associations (Steyn et al., 2010) among visibility, context-specific consumption values, and purchase intention with the moderating role of attitude on the examined associations.

Our use of CB-SEM was based on three reasons: (a) it is a popular method of data analysis that prior studies have utilized in the field of consumer behavior (e.g., Talwar et al., 2020a; Gohary et al., 2016), (b) a well-established theoretical framework was used for developing the model for our study and hypotheses (Talwar et al., 2021a) and (c), the data we obtained through the survey met the required criteria for CB-SEM, which include no presence of outliers or multi-collinearity, and

considerable size of responses or sample size (Hair et al., 1998, 2017).

4. Analysis

4.1. Validity and reliability

We used confirmatory factor analysis (CFA) to conduct the validity and reliability analysis. The CFA model returned a good model fit: $X^2/df = 2.0$, $CFI = 0.96$, $NFI = 0.92$, $GFI = 0.91$, $TLI = 0.95$, $RMSEA = 0.05$ (Tabachnick and Fidell, 2007), with factor loadings deemed to be acceptable (see Table 3). The composite reliability (CR) values were also over 0.70, indicating the presence of internal reliability and convergent validity (Fornell and Larcker, 1981). Additionally, convergent validity was established, as the average variance explained (AVE) was higher than 0.50 and lower than the corresponding values for CR (see Table 4). Discriminant validity was established by checking for lower values for inter-correlations among the constructs concerning the square root of the AVE values. Heterotrait-monotrait (HTMT) analysis also reported the presence of discriminant validity, given the correlations among the study constructs were less than the recommended threshold value of 0.85 (see Table 5) (Henseler et al., 2015).

4.2. Common method bias

We tested for the presence of common method bias (CMB) through Harman's single factor test (Podsakoff et al., 2003). The examination revealed that all considered measures explained 29.59% of the variance, which is significantly lower than the recommended threshold of 50% (Podsakoff et al., 2003). Thus, CMB was not present in our study.

4.3. Hypothesis testing

The structural model returned a good fit ($\chi^2/df = 2.153$, $NFI = 0.89$, $GFI = 0.88$, $AGFI = 0.85$, $RMR = 0.141$, $CFI = 0.94$, $TLI = 0.93$, $RMSEA = 0.06$). Although the proposed research model was controlled for age, gender, and economic background, none of these variables were found to exert a significant influence on purchase intention. The analysis determined that seven of the eight proposed hypotheses for direct associations were supported (see Fig. 2 and Table 6). It showed that visibility influenced MQB (H1: $\beta = 0.20$, $p < .001$), social status value (H2: $\beta = 0.28$, $p < .001$), and preference value (H3: $\beta = 0.15$, $p < .001$). Attitude was positively correlated with purchase intention (H4: $\beta = 0.40$, $p < .001$). Additionally, FDA-related purchase intention was found to be correlated with visibility (H5: $\beta = 0.19$, $p < .001$), MQB (H6: $\beta = 0.28$, $p < .001$), and preference value (H8: $\beta = 0.25$, $p < .001$). However, purchase intention was found to be negatively correlated with social status value (H7: $\beta = -0.22$, $p < .001$), and since we hypothesized a positive association between the two, this hypothesis was unsupported. Visibility explained 4.1% variance in MQB, 8% in social status value and 2.3% in preference value. All these values and visibility explained 54.5% of the variance in purchase intentions (see Fig. 2 and Table 6).

Table 4
Validity and reliability analysis.

	CR	AVE	MSV	ASV	ATT	PI	MQB	PVL	SST	VIS
ATT	0.87	0.62	0.44	0.20	0.79					
PI	0.89	0.61	0.34	0.15	0.58	0.78				
MQB	0.90	0.70	0.44	0.18	0.66	0.47	0.84			
PVL	0.82	0.61	0.09	0.03	0.10	0.31	-0.07	0.78		
SST	0.94	0.73	0.19	0.09	0.40	0.09	0.43	-0.02	0.85	
VIS	0.82	0.61	0.11	0.06	0.25	0.33	0.19	0.16	0.27	0.78

Note: Values on diagonal indicate the square roots of AVE, and the off-diagonal values indicate the inter-construct correlations, composite reliability (CR), maximum shared variance (MSV), average variance extracted (AVE), average shared variance (ASV), standard deviation (SD), purchase intention (PI), visibility (VIS), social status value (SST), preference value (PVL), monetary and quality-of-benefits value (MQB), and attitude (ATT).

4.4. Mediation

Model 4 in the PROCESS macro was employed to test the mediating role of consumption values—functional value (MQB), social status value, and preference value—for the association between visibility and purchase intention. Mediation involved bootstrapping the effect 5000 times to generate the interaction terms at 95% confidence intervals. The analysis revealed that all values partially mediated the association between visibility and purchase intention (see Table 7).

4.5. Moderation

We used the PROCESS Macro approach in SPSS for testing the moderation. We confirmed that attitude negatively moderated the association between visibility and purchase intention (see Table 8 and Fig. 3a). Moreover, the association between preference value and purchase intention was also negatively moderated by attitude (Fig. 3b). The analysis indicates that users with high attitudes generally exhibited higher purchase intentions for different intensities for visibility and preference value. Purchase intentions were found to increase for different strengths of attitude across different visibility levels. Similarly, purchase intentions were also found to be rising for users with low and medium levels of preference value for low, medium, and high attitudes. In comparison, attitude did not moderate the associations of purchase intention with MQB and social status value.

5. Conclusion and discussion

Our study addressed three RQs oriented toward understanding the influence of visibility, attitude, and consumption values on consumers' purchase intentions in the FDA context. To this end, we tested 10 hypotheses and determined the critical role of visibility, attitude, and consumption values in promoting consumers' intent to purchase from FDAs in the USA, especially in terms of MQB (or functional) and preference values. Our study extends the prior knowledge of consumers' FDA-related behavior. It provides new insights into the driving factors for FDA-related purchase intentions, especially by highlighting the moderating role of attitude for the examined associations. Thus, the findings of our study raise significant implications for both theory and practice in the context of FDAs and their prevalence in the marketplace.

5.1. Discussion on the key findings

We found empirical support for seven of the eight hypotheses tested for main effects (H7 was unsupported). Our results also confirm that all three consumption values exerted influence as partial mediators of the hypothesized associations. Our findings thus extend the current knowledge of consumers' decision-making process for and perception of FDAs.

The significant association of visibility with consumption values (H1–H3) suggests that advertisements and observation of peers' use of FDAs affected consumers' perceptions of different forms and degrees of value derived through their consumption of FDAs. Our findings are in

Table 5
HTMT analysis.

	PI	MQB	PVL	SST	VIS	ATT
PI						
MQB	0.55					
PVL	0.31	0.04				
SST	0.11	0.46	0.01			
VIS	0.37	0.22	0.15	0.27		
ATT	0.60	0.74	0.11	0.41	0.28	

Note: Purchase intention (PI), visibility (VIS), social status value (SST), preference value (PVL), monetary and quality-of-benefits value (MQB), attitude (ATT)

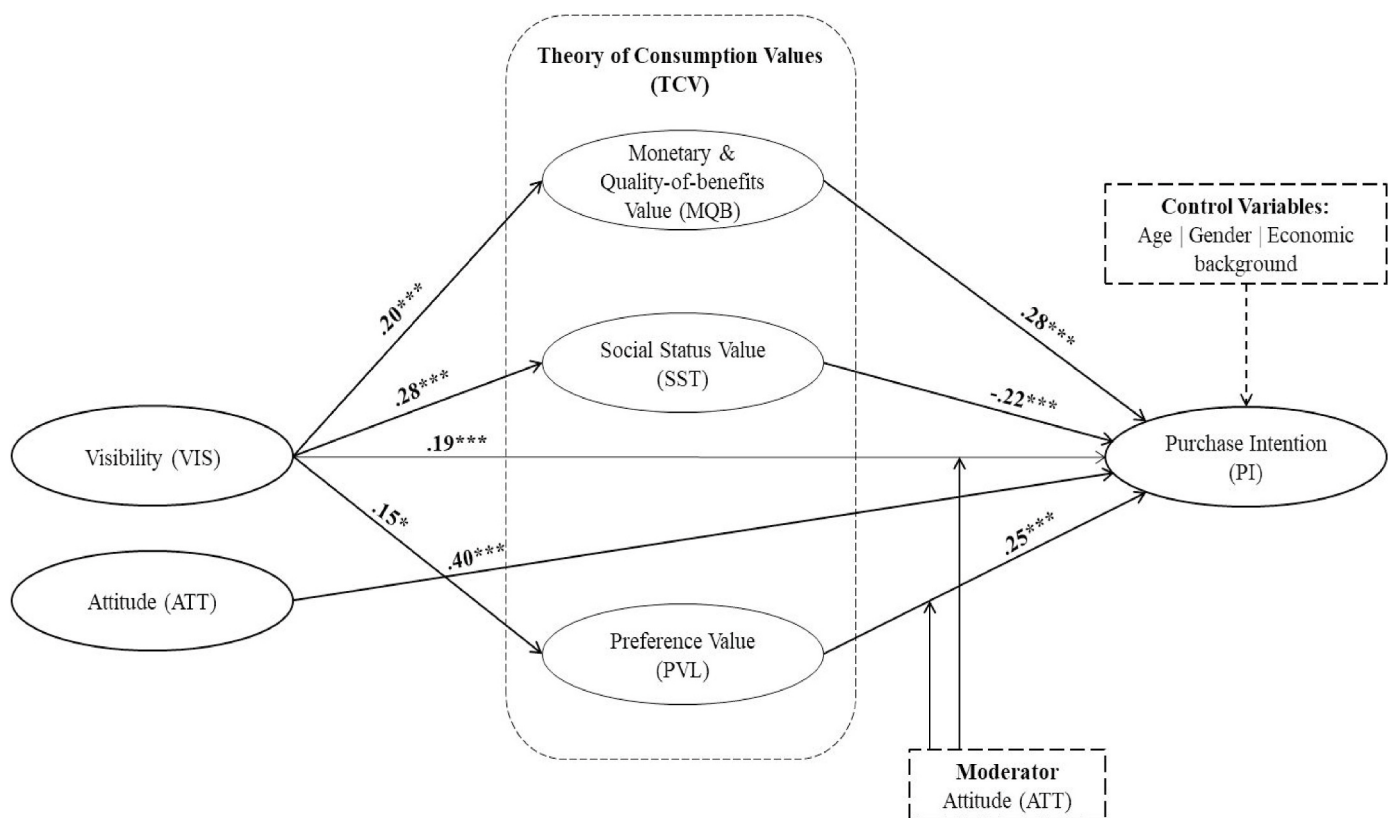


Fig. 2. Structural Model

Note: “***” indicates the significance level of <0.001, “**” indicates the significance level of <0.01, “*” indicates the significance level of <0.05.

line with prior studies, which suggest a possible positive association of visibility with consumption values. For instance, our results concur with those of Krey et al. (2019), who also found that functional and emotional advertising influenced perceived MQB-related aspects, such as ease of use and expected usefulness in the context of a technology-enabled product (i.e., smartwatch). Moreover, our results confirm the contention of earlier researchers who have also suggested that social value

(Dastane et al., 2020) and perceived conditional, i.e., preference value (Piotrowicz and Cuthbertson, 2019; Lin and Huang, 2012), can be influenced by the product’s and its features’ enhanced visibility. However, to the best of our knowledge, these associations were not tested in prior studies. Thus, while our findings add to the existing knowledge of the antecedents of consumption values, more research is needed before any generalizations can be made.

Table 6
Hypotheses testing results.

Hypothesis	Path	β	p	Supported
H1	VIS → MQB	0.20	<0.001	Yes
H2	VIS → SST	0.28	<0.001	Yes
H3	VIS → PVL	0.15	<0.5	Yes
H4	VIS → PI	0.19	<0.001	Yes
H5	ATT → PI	0.40	<0.001	Yes
H6	MQB → PI	0.28	<0.001	Yes
H7	SST → PI	-0.22	<0.001	No
H8	PVL → PI	0.25	<0.001	Yes

Note. *** $p > .001$, ** $p > .01$, * $p > .05$.

Table 7
Mediation analysis.

VIS → MQB/SST/PVL → PI						
	B	se	t	p	LLCI	ULCI
VIS → MQB	.20	.06	3.55	.00	.0877	.3054
VIS → SST	.27	.06	4.52	.00	.1517	.3852
VIS → PVL	.08	.03	2.40	.02	.0147	.1490
VIS → PI	.17	.03	4.88	.00	.0991	.2326
MQB → PI	.38	.03	11.24	.00	.3153	.4490
SST → PI	-.10	.03	-3.31	.00	-.1669	-.0425
PVL → PI	.30	.05	5.86	.00	.1977	.3976
Total effect of VIS → PI	.24	.04	6.10	.00	.1607	.3137
Indirect effects between dependent and independent variable						
	Effect	se		LLCI	ULCI	
VIS → MQB → PI	.08	.02		.0300	.1220	
VIS → SST → PI	-.03	.01		-.0479	-.0118	
VIS → PVL → PI	.02	.01		.0040	.0499	

Table 8
Results of moderation analysis.

Attitude						
	B	T	p	LLCI	ULCI	Moderation?
VIS → PI	-.09	-2.17	.03	-.1713	-.0083	Yes
MQB → PI	-.02	-.47	.64	-.0976	.0598	No
SST → PI	.06	1.34	.18	-.0278	.1459	No
PVL → PI	-.16	-2.83	.00	-.2730	-.0493	Yes

Visibility was also positively associated with purchase intention in the FDA context (H4). This finding lends credence to similar observations made in the past about purchase intentions relating to mobile payments (Johnson et al., 2018) and organic food (Teng and Wang, 2015). The results are in accordance with prior studies suggesting that an advertisement's functional and experiential aspects positively influence consumers' cognition of derived value and, subsequently, their purchase intentions (e.g., Zarantonello et al., 2013). Our findings further suggest that visibility-related functional and/or experiential aspects may also be gained from observing peers' usage of a specific product, in this case, FDAs, which can similarly influence purchase intentions. These results also concur with the findings of Kaur et al. (2021) and extend support to their observations that the visibility and observability of a technology-based product or service can have significant connotations for consumers' intent to use such a product or service.

We also found support for H5, which posited that attitude would be positively associated with purchase intention. The result is aligned with prior studies that have also found a similar association for FDAs (e.g., Belanche et al., 2020) and other contexts (e.g., Dhir et al., 2021). Our results confirm that consumers' intent to use and order food through FDAs would be significantly related to their perception of the favorability of FDA consumption, thereby highlighting the importance of the consumption values consumers would derive from using FDAs. We suggest this on the basis that consumers' overall evaluation of these derived values may influence their evaluated favorability or unfavorability of using FDAs.

Our results further support prior studies that have identified consumption values to influence purchase intention significantly (e.g., Goh et al., 2014). Since we found MQB to be positively associated with FDA purchase intention (H6), our results suggest that MQB value significantly influences consumers' purchase intention regarding food products. Our findings are consistent with prior studies, which posit that MQB value-related attributes, such as price (Díaz et al., 2012) and quality (Kaur et al., 2021, 2020b; Talwar et al., 2020 a,b), can significantly influence consumers' decision-making process (Jamroz and Lawonk, 2017; Perrea et al., 2015), particularly their intent to purchase a product or service. This indicates the importance of factors, such as offered benefits, reasonability of prices, and consumers' assessment of whether the purchase has provided them with substantial value for money with respect to cost-quality valuation (Wang et al., 2019).

We hypothesized a positive association between social status value and purchase intention (H7), which was unsupported as we found a

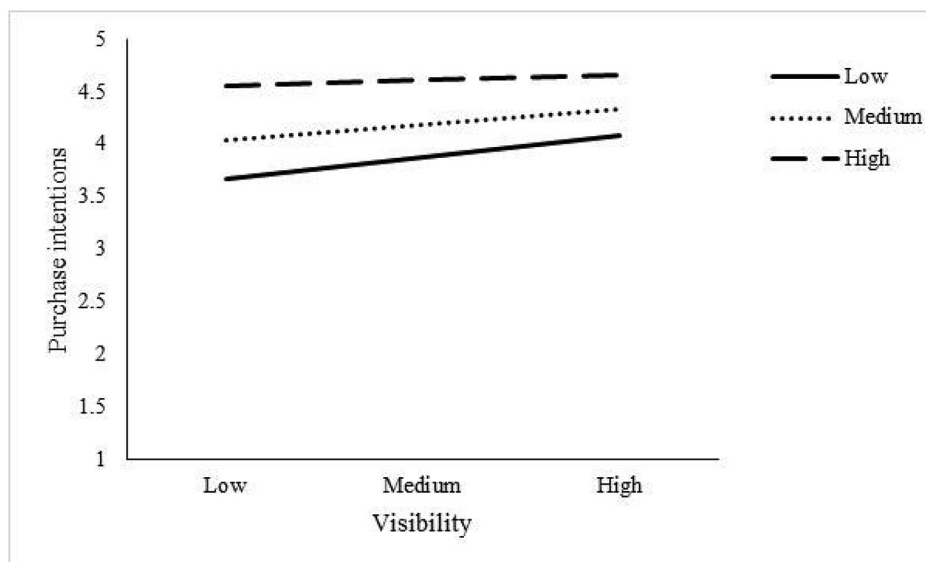


Fig. 3a. Moderating influence of attitude on the association of visibility and purchase intentions.

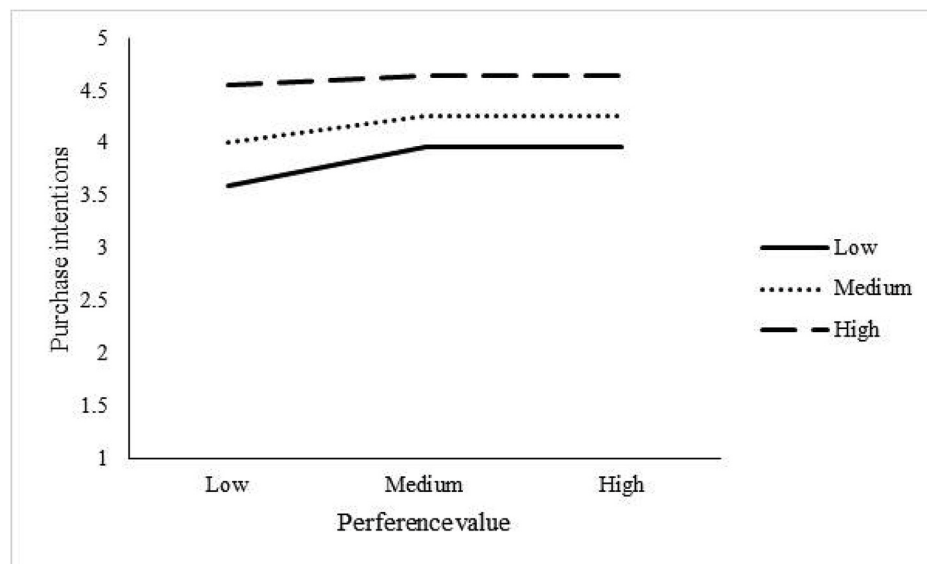


Fig. 3b. Moderating influence of attitude on the association between preference value and purchase intentions.

negative association between the two. The findings differ from existing studies that have found social value to be a significant predictor for purchase intention toward services like online travel agencies (Talwar et al., 2020a) and FDAs (Kaur et al., 2021). We attribute this contradictory result to the context-specific nature of the respondent sample, as earlier studies (e.g., Talwar et al., 2020a; Kaur et al., 2021) have been conducted for emerging economies like India. It is also possible that consumers in the USA do not associate FDA consumption with social value due to the high number of its users. Statista (2020a) estimated that approximately 44.1 million people in the USA would be active smartphone FDA users in 2021. Nevertheless, more studies have to be conducted before any strict conclusions may be drawn about this association.

Preference value (H8) was also positively associated with purchase intention, indicating the respondents' desire to derive more benefits through FDA consumption. Our study suggests that FDA purchase intention can be increased by influencing consumers' perception of positive contingent gains, such as free delivery, access to preferred restaurants, special pricing, promotional offers (Hwang and Kim, 2019), and discounts (Lin and Huang, 2012). For instance, our findings lend support to the results of Kaur et al. (2021), who also found affordances value (i.e., features that perceivably improve consumers' FDA usage value) to predict consumers' intent to purchase food through FDAs, albeit in the context of India. Such perceived gains can play a major role in determining consumers' ultimate adoption or rejection of FDAs. Thus, our results also support prior studies that suggest preference value's association with consumers' intent to purchase technology-based services, such as OTAs (Talwar et al., 2020a) and food products (Kushwah et al., 2019).

The mediation analysis findings enable us to confirm that consumption values indirectly influence the relationship between FDA visibility and purchase intention (H9). The results indicate that factors, such as peer approval, temporal, and general service offering-related contingencies, can induce consumers to pay greater attention to the visibility-enhancing initiatives adopted by marketers for FDAs and subsequently increase their purchase intention. Furthermore, the relationship between visibility and purchase intention is affected by consumers' perceived gains in terms of the MQB extended by FDAs. Similar observations have been made about the predictive capacity of consumers' perceived value for purchase intentions in past research (e.g., Kaur et al., 2021; Talwar et al., 2020a). Thus, our results align with prior studies, which have also determined the mediating role of functional

value (Molina-Castillo et al., 2020; Lien et al., 2018), and social value (Lin et al., 2020) in influencing consumers' decision-making processes.

Lastly, we found that attitude moderated the associations negatively for (a) visibility and purchase intention and (b) conditional value and purchase intention (H10), lending support to prior studies that have posited attitude as enacting influence as a moderator for consumers' decision-making processes (e.g., Arpacı, 2016; Abd Mutalib et al., 2019). The presence of moderation effect for visibility and preference value is an interesting result because other studies in the context of emerging economies, like India, have suggested that monetary aspects, promotional offers, and different contingent situations, such as limited availability or free delivery, can influence purchase intention (Kushwah et al., 2019). Our results indicate that a consumer's observation of others' usage of FDAs and contingent benefits derived from FDA consumption could be influenced by their attitude, regardless of geographic constraints. Yet, these may be context-specific findings that would need to be validated by further studies before any conclusive observations can be drawn.

However, H10 was only partially supported, as attitude did not moderate the association of purchase intention with MQB and social status value. These observations support a vast body of literature on technology acceptance that has reported attitude as an inconsistent mediator between beliefs and behavioral intentions (e.g., Davis et al., 1989; Venkatesh et al., 2003). Moreover, the findings of Sharma and Jha (2017) support our results. The authors found that attitude moderated associations between internal values and sustainable consumption behavior but not externally-oriented values in the Indian context (Sharma and Jha, 2017). We contend that for consumers in the USA, MQB value may be a perceived external source of value since a specific FDA would be evaluated relative to other available options in the marketplace. Furthermore, since social status may be contingent on external evaluation and others' willingness to grant it as a value (Truong and McColl, 2011), we contend that social status may not be a specific internal value derived from FDA consumption due to the relatively high rate of penetration of these platforms in the USA (Statista, 2020a).

We attribute these findings to the context-specific nature of consumption values and offer novel insight into USA-based consumers' behavioral responses and evaluation of technology-enabled digital platforms in food retail, such as FDAs. We urge scholars to explore our findings' generalizability by examining the same associations in the context of specific FDAs and other types of retail food aggregators in the USA. Our results thus indicate that attitude toward FDAs influences the

perceived visibility of FDAs as well as the strength of perceived value that can be derived through preferential aspects. It further highlights that consumers' observation of others' usage and conditional benefits of using FDAs can enhance consumers' purchase intention and possibly their actual consumption of services through FDAs. The implications of our findings for academicians and FDA developers and food marketers are discussed in subsequent sections.

5.2. Theoretical implications

This study makes five main contributions to the literature. First, we answer previous researchers' call for focused investigations into consumer behavior and the adoption of digital technologies. Since FDAs are a relatively novel digital technology that has created a significant disruption in the hospitality sector (Talwar et al., 2021b; Xu and Huang, 2019), our study contributes to the scholarly understanding of a niche area and the potential expansion of existing research boundaries pertaining to digital as well as physical food retailing.

Second, the literature highlights a gap in understanding the impact of visibility in the hospitality industry (Kaur et al., 2021; Talwar et al., 2020a). Our study addresses this gap and extends prior research by investigating the influence of visibility in the context of FDAs. Scholars can use our findings to test the effectiveness and impact of different ways in which the visibility of technology-enabled services, such as FDAs, can be enhanced to influence consumers' intent to purchase such products/services.

Third, our study contributes toward contextualizing TCV (e.g., Kaur et al., 2021; Talwar et al., 2020a) by developing and testing context-specific consumption values in the FDA context. Thus, we extend the applicability of TCV to the study of food retailing through our examination of technology-enabled platforms—namely, FDAs.

Fourth, we make a significant contribution by exploring the mediating influence of consumption values and the moderating role of attitude in determining consumers' cognitive, behavioral, and perceptual responses to FDAs. To this end, we have empirically examined the interplay between consumption values and attitude in consumer decision-making. Exploring such moderators and mediators can help scholars develop a nuanced understanding of differential patterns in online consumer behavior (Kaur et al., 2021; Talwar et al., 2020a, b), such as FDAs, as in this case.

Lastly, our findings provide insights into FDA-related consumer attitudes and behavior in a developed economy—namely, the USA. Since FDAs are a steadily growing form of O2O retail food in developed economies (Statista, 2020a, b), we hope that our findings will encourage other scholars to explore further the nuances of behavioral differences among consumers based in such economies in terms of socio-cultural, geographic, and demographic factors.

5.3. Practical implications

Statistical estimates by a recent report suggested that FDAs had diffused through approximately 29.1% of the populace, indicating a strong potential for their further growth as online food delivery adoption is still in the early majority stages (Statista, 2020a). Such estimates conclusively suggest that consumers are increasingly using FDAs in the USA, wherein aggregators, such as GrubHub and UberEATS, are enjoying high popularity among consumers (Statista, 2020a, b). Moreover, FDAs are continuing to innovate and act as digital disruptors (Evans, 2019), for example, through the adoption of features, such as drone-based delivery services (Hwang and Kim, 2019), contactless delivery, and the use of higher standards for safety and hygiene in concurrence with supply chain partners like restaurants and delivery agents. Since it is estimated that consumers would take time to become comfortable with dine-in experiences once the lockdown is lifted (Statista, 2020b), we expect consumers to continue using FDAs for the foreseeable future due to their evolving and improved services. Our

expectation is supported by recent reports that also foresee a sound growth in the global market size of online food delivery services in the next three years, with platform-to-consumer delivery predicted to earn an estimated revenue of USD 96 billion by 2024 (Statista, 2020a).

Thus, we believe that FDAs will remain an integral part of the hospitality sector in the future wherein more restaurants should, along with individually-provided home delivery services, utilize FDAs as a complementary delivery channel to maximize their reach in the marketplace. We believe that food service retailers would use FDAs especially to target young consumers (aged 20–35 years), as reports indicate that these consumer segments are prolific users of these platforms in the USA (Statista, 2020a). Our findings support seven key inferences for practice. FDA service providers can utilize these insights to develop and increase their targeted offerings to meet customers' desired values and even prompt more robust customer engagement with FDAs.

First, the evident influence of visibility on values and purchase intention suggests that FDA developers and marketers should focus on clarifying various ways, methods, and techniques for garnering increased visibility to influence consumers' intent to purchase FDA services. Moreover, since our sample mainly represented a younger demographic segment (approximately 58% aged between 21 and 35 years), practitioners should focus on channels that can increase the reach of their visibility-enhancing initiatives among this consumer cohort by advertising in mobile games and on social media platforms, for example. Our contention is supported by recent reports (Statista, 2020a), which have also posited that 31.5% of consumers aged between 25 and 34 years actively use online food delivery services in the USA.

Second, the direct positive influence of consumption values (i.e., MQB and preference value) on purchase intention implies that marketers need to develop a thorough understanding of the specific factors that influence consumers' perceived degree of derived value. As these factors may also be context-specific, we urge FDA marketers to identify them while considering the differential influence of socio-cultural, demographic, and geographical variables.

Third, given our findings regarding the mediating role of consumption values, we suggest that marketers should focus on identifying measures that can influence consumers' perception of derived values. For example, marketers can utilize co-branding and loyalty programs that offer customers monetary and social benefits. Furthermore, marketers may focus on developing point-of-sale offers to create contingencies that may deliver preference value, such as by using coupons, to induce actual purchases.

Fourth, since attitude was found to directly affect purchase intentions and moderate the association between visibility and purchase intention, marketers should educate consumers about the benefits of FDAs to inculcate a positive attitude among consumers toward using these platforms. While this may be done through advertisements and other visibility-enhancing marketing efforts, FDA developers may take more initiatives in this direction. For example, developers could introduce features on the FDA interface that emphasize a particular restaurant's uniqueness, such as local business status, most popular dishes, or information about its employees, such as their background, to bolster the perceived authenticity of its experience or service. Such information could positively influence consumers' attitudes toward FDA use.

Fifth, we uncovered that attitude moderated the associations between preference value and purchase intention. Consequently, we posit that marketers and FDA developers should focus on platform affordances that can enhance consumers' perceived value that can be derived by offering more contingent benefits and affordances. For example, FDA developers can create co-branding programs to provide benefits through complementary products or service brands. FDAs and partner restaurants may also consider introducing conditional or 'limited-time' promotional offers, e.g., reduced prices for new menu items, free deliveries, or reduced delivery charges for larger orders around national holidays.

Sixth, the findings imply that marketers should focus on platform affordances, such as ease and convenience of use, payments, and post-

purchase follow-up. Such affordances could enhance consumers' perception of derived MQB, which was found to influence purchase intention significantly. FDA developers should also pay attention to resolving any technical issues that consumers face while using FDAs quickly as such issues can negatively impact the perceived value derived from FDA usage.

Lastly, FDA developers should consider integrating artificial intelligence (AI) based algorithms, which can analyze consumers' search and order history to provide more personalized product offerings. Furthermore, AI-based analyses of such consumer data could be used to create hyper-localized services based on consumers' behavior within a specific geographical area (e.g., [Angus and Westbrook, 2019](#)) to further enhance consumers' perception of derived value.

5.4. Limitations and future research directions

This study faced limitations that can be addressed in future research. First, since we focused on a specific geographical region, our findings may have limited generalizability, especially in terms of the three context-specific values we utilized in our framework. Future research should aim to validate our findings and especially focus on determining whether the three context-specific consumption values we derived through the qualitative analysis apply to specific regions within the USA as well as to other countries. Comparative studies may also be conducted to compare the strength of the examined associations among consumers in emerging versus developed countries.

Second, while we controlled for only three socio-demographic factors, we acknowledge the potential influence of other confounding factors, such as education, income, occupation, or the number of household members. Future research may assess such socio-demographic characteristics to provide deeper insights into their influence on FDA use behavior.

Third, we employed a cross-sectional research design and used self-reported measures that are subject to inherent limitations, such as social desirability bias or biased responses due to a retrospective recall of behavior. Future studies may address this limitation by employing mixed-method research designs as well as objective and real-time data collection methods, such as the use of log data, for example. Lastly, we were limited by non-probabilistic sampling techniques, which may affect the generalizability of our findings. We urge scholars to consider alternative sampling procedures to validate and refine our results to expand this FDA-oriented research domain.

Despite these limitations, our study makes significant contributions to the existing knowledge of FDA consumers. To further develop this research domain, we recommend scholars consider utilizing other seminal theories from multiple disciplines to build a more comprehensive understanding of FDA consumer behavior. For example, innovation resistance theory (IRT; [Kaur et al., 2020b](#); [Ram and Sheth, 1989](#)) may be utilized to understand why consumers resist the use of FDAs. Moreover, customer experience frameworks may be used to understand the sensory aspects of FDA purchases, such as app design elements (e.g., color and background) and the influence of peer reviews on purchase decisions ([Lin et al., 2020](#)).

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Declaration of competing interest

None.

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