

# What Makes People Purchase Used Products Online? Focusing on the Roles of Consumer Value, Platform Attachment, and Consumer Engagement\*

## 중고 상품 온라인 구매 동기에 대한 연구: 고객가치, 플랫폼 애착, 고객 관여도를 중심으로

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Consumer-to-consumer (C2C) platforms have seen tremendous growth recently with most studies focusing on C2C platform for ridesharing and accommodation. However, little studies have explored C2C platform for used product transaction and the relevant factors that influence its continuous usage and recommendation. This study explores how consumer value serves as an antecedent of consumer engagement and platform attachment, leading to continuous use and recommendation intentions of C2C used-product platforms through the lens of uses and gratification theory. Analyzing the structural equation model with survey responses from experienced users of C2C used-product platforms reveals that multi-dimensional consumer values significantly influence consumer engagement and platform attachment. Consumer engagement is observed to substantially impact continuous use intention and recommendation intention of C2C used-product platforms. In contrast, platform attachment significantly affects only recommendation intention. A multi-group analysis, however, shows that platform type (i.e., community-based connector vs. supportive models) does not moderate the strength of the relationship between the exogenous and endogenous constructs of the research model. The results raise a favorable theoretical implication for future and practical implications for C2C used product and e-commerce firms.

Key Words: C2C used-product platform, Consumer value, Consumer engagement, Platform attachment, Continuous use intention, Recommendation intention, Uses and gratification theory

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## 1. Introduction

Consumer-to-consumer (C2C) platforms have recently seen exponential growth, especially in the used-product exchange and transaction markets. According to the Korea Herald, 25 percent of smartphone users in South Korea utilize second-hand services to purchase products, with the most popular platforms being Danggeun Market, Joonggonara, and Bunjang (Lee, 2020). The increase in C2C platform usage can also be seen outside of South Korea. Idle Fish (Taobao) has become China's largest C2C community-based used-product platform (Booker, 2021). While no specific C2C platform has been named the largest in the US, the used-product market is expected to double within the next five years, with revenue projections close to \$77 billion (Thredup, 2021). These statistics indicate how C2C used-product platforms are revolutionizing used-product consumption and transition globally.

Extant literature on C2C platforms describes it as a sharing economy or collaborative consumption platform (Ek Styvén & Mariani, 2020; Lang & Joyner Armstrong, 2018). A C2C platform is also defined in some literature as an online sharing platform for the peer-to-peer exchange of physical assets/goods and services (e.g., cars, rides, accommodations, home appliances, etc.) directly among users of the platform (Teubner, Adam, Camacho,

& Hassanein, 2014). According to previous literature, C2C platforms provide several benefits, including generating revenue for idle resources, creating valuable offers for consumers, and reducing the environmental impact of consumption (Leismann, Schmitt, Rohn, & Baedeker, 2013; Teubner et al., 2014). Consequently, the ability of a C2C platform to share idle resources yields both demand and supply economic advantages that increase resource efficiency and provide societal and environmental benefits (Teubner et al., 2014).

The most common examples introduced in C2C platform studies have been ride-sharing platforms such as Uber, Lyft, and electric scooter platforms; accommodation sharing platforms such as Airbnb; and C2C e-commerce platforms such as Craigslist, eBay, and Taobao.com. In C2C e-commerce, the defining characteristic of these platforms is that they enable customers to interact with sellers and platform providers before completing transactions (Huang & Liu, 2010). Other defining traits of C2C platforms include flexibility, low barriers, and relatively low costs for both consumers and sellers (Xu, 2021). Although previous studies have been conducted on C2C sharing platforms concerning ride sharing, accommodation, and e-commerce, relatively little attention has been paid to the growing popularity of C2C platforms that enable used-product transactions, creating a gap in C2C used-product platforms research.

In the context of C2C platforms, issues such as trust (Chen, Zhang, & Xu, 2009; Huang, 2021; Teubner et al., 2014), loyalty (Huang, Chen, Ou, Davison, & Hua, 2017), pricing (Zimmermann, Angerer, Provin, & Nault, 2018), user purchase intention (He, Lu, & Zhou, 2008), user repurchase intention (Shihab, Maulana, & Hidayanto, 2018), and organizational structure (Chen et al., 2009) have been explored by extant literature. Other literature on C2C used-product platforms has mainly focused on their ability to lead to either influence impulsive sustainable consumption (Ek Styvén & Mariani, 2020; Parguel, Lunardo, & Benoit-Moreau, 2017). These studies describe C2C used-product platforms as a sharing economy platform whereby attitudes towards platform adoption - particularly when it comes to buying on the platform - are influenced by perceived sustainability and distance from the consumption system (Ek Styvén & Mariani, 2020). As previous literature indicates, C2C platforms also exist offline, where users engage in collaborative consumption by renting and swapping used clothes based on personality traits such as fashion leadership, need for uniqueness, and materialism (Lang & Joyner Armstrong, 2018).

However, current research on C2C platforms has not explored the platform's ability to influence continuous use and recommendation intentions. Moreover, the literature on attitudinal factors that influence either continuous

use intention or recommendation intention has mainly focused on satisfaction and trust as the major determining factors (Budiardjo, Pamenan, Hidayanto, & Cofriyanti, 2017; Lee & Kim, 2020). Still, the effects of platform attachment and consumer engagement on continuous use and recommendation intentions have yet to be thoroughly studied. Previous literature regarding attachment in information systems studies has focused on host attachment on sharing platforms (Lee, Chan, Balaji, & Chong, 2018) and product attachment in C2C transactions (Graul & Brough, 2021). Similarly, literature on consumer engagement on C2C platforms has concentrated on consumer engagement with social media brands (Liu, Kou, Guan, Hu, & Pu, 2020), online shopping platforms (Cheung, Zheng, & Lee, 2014), and virtual communities (Claffey & Brady, 2014). Hence, it is clear that the roles of platform attachment and consumer engagement as attitudinal factors influencing continuous use and recommendation intentions towards C2C used-product platforms have not been closely examined.

Using the uses and gratification theory (U&GT) as a conceptual framework, this study identifies gratification factors represented by consumer value-related dimension such as hedonic, utilitarian, and social value that increase platform attachment and consumer engagement. Therefore, using the uses and gratification theory (U&GT) as a conceptual

framework, this study identifies gratification factors represented by consumer value-related dimension such as hedonic, utilitarian, and social value that increase platform attachment and consumer engagement. Environmental value is introduced in this study as gratification value because C2C used product platform minimize environmental impacts by promoting sustainable consumption, reducing resource waste, and solving environmental pollution problems through providing economically efficient alternative used products to consumers to reduce excessive consumption (Liu, Shao, & Wang, 2021; Moriuchi & Takahashi, 2022). Therefore, the C2C used product platform's ability to address users' hedonic, utilitarian, social, and environmental value concerns will lead strong engagement and attachment to the C2C used product platform. The study further examines the subsequent effects of platform attachment and consumer engagement on continuous use and recommendation intentions towards C2C used-product platforms. Furthermore, this study attempts to find the moderating role of C2C platform type in the relationships among consumer values, consumer engagement/platform attachment, and continuous use/recommendation intentions.

The study provides theoretical implications which create a framework that incorporates gratification sought; this framework broadens the spectrum of gratification and improves

factors that influence the C2C platform behavioural intentions of the user. This study also has practical significance to C2C platform design, management, and marketing strategies through its ability to indicate factors that can be focused on to improve engagement, attachment, continuous use, and recommendation.

## II. Theoretical framework

### 2.1 C2C used product platform

Most literature refers to the sharing economy as the technology used to share underutilized resources to improve efficiency and sustainability (Lee et al., 2018). The sharing economy is based on the recirculation of goods, increased utilization of assets, exchange of services, and sharing of productive goods (Schor, 2016). The sharing economy has been described to be intertwined with collaborative consumption (Ek Styvén & Mariani, 2020) as collaborative consumption is a component or category of the technology-driven sharing economy (Hamari, Sjöklint, & Ukkonen, 2016). Collaborative consumption as a sub-category of sharing platforms has been referred to as acquiring and distributing a resource for monetary or other financial compensation (Belk, 2014). In an online context, collaborative consumption is described as the peer-to-peer or consumer-

to-consumer activities comprising obtaining, giving, or sharing access to goods and services coordinated via an online community-based service (Hamari et al., 2016). The types of collaborative consumption are productive systems, redistribution systems, and collaborative lifestyles (Botsman & Rogers, 2010). These types are akin to the types of sharing platforms described by Schor (2016).

A C2C platform can be described as a digital technology enabling the acquisition and distribution of goods through collaborative consumption. Table 1 provides a summary of key C2C platform literature. A C2C platform is based on the C2C collaborative commerce of collaborative consumption (Yrjölä, Hokkanen, & Saarijärvi, 2021) and is a platform that focuses on sharing or renting access to commodities (Lee et al., 2018). It is also a platform that enables social C2C communities to share used goods via social network sites. For a C2C platform to be considered a platform for trading used goods, it must have the following characteristics: (1) the exchange of ownership of the used goods is seen as permanent; (2) users of the platform can assume the role of both suppliers and customers; and (3) the platform has an intermediary role between users (Yrjölä et al., 2021). This type of platform is described as the C2C used-product platform based on its property of facilitating C2C consumption of pre-owned goods with the effective transfer of ownership via

activities such as gifting, bartering, or selling. Therefore, a C2C used-product platform falls under the collaborative consumption redistributive market system.

In this study, a C2C used-product platform is regarded as a sharing economy platform due to the peer-to-peer activities they incorporate; nevertheless, the platform has its own unique feature in terms of the second-hand economy (Matzler, Veider, & Kathan, 2015; Yrjölä et al., 2021). In this sense, the second-hand business model described by Yrjölä et al. (2021) can be applied to differentiate the types of C2C used-product platforms. According to Yrjölä et al. (2021), the C2C used-product platform typology includes the connector, supportive, and controller models. First, the defining property of the connector model is the ability for users to provide services for themselves without the influence or interference of the company running the platform. The merit of such a platform is its ability to assume less business risk and allow users to access many consumers and sellers (e.g., Craigslist). Second, the supportive model is a platform that offers supportive services to ensure better interactions and successful transactions. Such services include providing safe transactions devoid of fraud, instituting payment systems, and providing delivery support systems (e.g., eBay and Joonggonara). The final type of platform is the controller model, which is a platform that conducts part

〈Table 1〉 Summary of previous literature on C2C platforms

Platform type	Research setting	Independent variables	Dependent variables	Findings	Author(s)
Ride sharing	Online survey of Didi ride-sharing user in China, with 458 responses collected	Confirmation, satisfaction, trust, perceived risk, attractiveness of alternatives	Continuance intention	Ride sharing continuous use intention is influenced by satisfaction via the mediated re of platform trust, driver-trust, and the attractiveness of alternatives	Jiang and Lau (2021)
	Survey of Socar user in South Korea, with 292 responses collected	Cost saving, time saving, convenience, and social value	Intention to use car sharing	Intention to ride share is significantly influenced by time savings and convenience	Joo (2017)
	Survey of Sharetribe users in Finland with 192 responses collected	Sustainability, enjoyment, reputation, and economic benefit	Attitude and behavioral intention	Behavioral intentions of collaborative consumption platform Sharetribe is influence by factors such as economic benefits, enjoyment, and sustainability	Hamari et al. (2016)
Accommodation	Qualitative research involving a focus group of 8 local and 15 international student, and quantitative cross-sectional survey of Airbnb users in users in Switzerland, with 192 responses collected.	Self-gratification value (experience, hedonic value, utilitarian value, service quality, economic appeal), Social value (peer influence and word of mouth)	Revisit intention, loyalty, external influence, social appeal	Self-gratification and social value were both found to strongly impact Airbnb revisit intention, external influence, and social appeal. However, is impacted by self-gratification value and not social value	Tajeddini et al. (2022)
	Control experiment involving 20 MTURK workers in Study 1 and 31 undergraduate students in	Host attributes (visual information-photo, non-visual information-reputation, product attributes)	Guest's purchase decision	Host's photo is perceived as trustworthy and influences guest purchase decision.	Ert, Fleischer, and Magen (2016)
Used product platforms	Survey of P2P second-hand platform users in UK with 412 responses collected.	Perceived sustainability, economic motivation, distance from consumption system, attitude towards buying, and second-hand	Intention to buy second-hand	Perceived sustainability, economic motivation, and distance significant from the consumer system led to attitude and intention towards buying second-hand products.	Ek Styvén and Mariani (2020)
	Survey of French P2P platform Leboncoin users with 541 responses collected	Materialism, environmental consciousness, and cognitive dissonance reduction	Indulgent consumption on second-hand P2P platforms (impulse buying and number of items purchased)	Used P2P platforms justify material and environmentally conscious consumers to engage in indulgent behaviors	Parguel et al. (2017)
	Survey of Japanese second-hand platform users in Japan with 311 responses were collected in study 1. Study 2 aimed at validating study 1 involved an online survey of online secondary marketplace social commerce site (e.g., Mercari) with 202 responses collected	Eco-centric functional value, trust in online secondary market platforms, trust in seller, engagement on platform	Intention to reuse online secondary market platforms	Eco-functional value has strong influence on intention to reuse online secondary market, and trust in platform and engagement have a significant mediating effect between eco-centric functional value and intention to reuse online secondary market platforms	Moriuchi and Takahashi (2022)

of the exchange on the customer's behalf to increase trust and safety. This type of platform requires users to be certified by the company before they use it to sell a product (e.g., Amazon, Coupang, and GMarket). Other studies have described C2C platforms to include trading within the same region (community) (e.g., Danggeun Market), national coverage trading (e.g., Joonggonara, Craigslist, and eBay), and specific goods trading platforms (Huo & Qu, 2016). Example of specific good trading platforms include MrCamel (a used luxury product platform) and Sk encar (a used car trading platform).

Due to the different aspects of C2C used product types, this study reclassifies the platforms into two models: (1) a community-based connector model and (2) a supportive model. First, since some C2C used-product platforms (e.g., Danggeun Market) have recently developed to serve specific communities or locations in a region and have the traits and infrastructure of a connector business model, a community-based connector model is considered in the study. This type of C2C used product platform business model has indirectly infused the social support and social capital systems that enable its growth. According to previous literature, C2C used-product platforms allow for self-service in community-based situations, such as providing subtle social capital, supporting economic and social satisfaction, and achieving loyalty (Huang et

al., 2017). The underlying social capital and support influence trust and engagement (Hsiao & Dillahun, 2021), transaction intention (Luo, Wang, Zhang, Niu, & Tu, 2020), and user motivation and collaboration consumption attitudes (Kim & Yoon, 2021). The second platform type is a supportive model akin to the national coverage trading used-product platform type (Huo & Qu, 2016). Users of this type can trade among themselves country-wide, and the platform performs the dominant mediating role in the supporting phases of transactions to ensure successful interaction and trade (e.g., Joonggonara). This study takes two of the biggest C2C used-product platforms in South Korea - Danggeun Market (community-based connector model) and Joonggonara (supportive model) - as research sites in order to reveal the relationships and their differences among gratifications (i.e., consumer values), consumer attitudes (i.e., consumer engagement and platform attachment), and behavioural intentions (i.e., continuous use intention and recommendation intention) based on U&GT.

## 2.2 Uses and gratification theory

According to (Katz, Haas, & Gurevitch, 1973), the uses and gratification theory (U&GT) is used to explain why people are motivated to use a particular media, with the C2C used product platform serving as the media in

question in this study. The theory assumes that people have innate needs that can be satisfied by media which is the C2C used product in this research context. The gratification under this theory is conceptualized as the “need satisfaction” categorized into gratification sought, obtained, and opportunities (Hasugian, Nasution, & Muda, 2019; Hussain, Shabir, & Taimoor Ul, 2020; Lo & Leung, 2009). This study focuses on the gratification sought, encompassing expected benefits from using a C2C used product platform (Hasugian et al., 2019). U&GT has been applied across various research contexts such as internet usage (Hicks et al., 2012; LaRose & Eastin, 2004; Stafford, Stafford, & Schkade, 2004), live streaming shopping (Ma, 2021), instant messages and email (Lo & Leung, 2009), social media (Hussain et al., 2020), and food delivery apps (Ray, Dhir, Bala, & Kaur, 2019). Therefore, in this study, U&GT interlinks consumer values, attachment, and engagement to explain consumer motivation towards the continuous usage and recommendation of C2C used-product platforms, with U&GT serving as an overarching theoretical framework.

The concept of U&GT can be divided into gratifications, attitudes, and behaviors (Ha, Kim, Libaque-Saenz, Chang, & Park, 2015). First, U&GT explains why people are driven to use a particular medium (Katz et al., 1973), consumer value, in the same vein, explains why consumers choose to buy or not buy a

specific product (Sheth et al., 1991). Both the gratification of U&GT and consumer value can serve the same purpose of indicating the motive for consumption and satisfaction. Previous literature has shown that consumer value serves as the gratification sought to influence attitude (Gogan, Zhang, & Matemba, 2018). Consumer value is described as the gratification sought in this study as it is the perceived or expected benefits of using the object in question (used-product platform). The dimensions of consumer value relate well to the gratification sought. For instance, studies have indicated that gratification derived from using the internet includes convenience and information seeking, entertainment, monetary compensation, relationship, maintenance, and personal status (Papacharissi & Rubin, 2000). These factors are akin to utilitarian, hedonic, and social value dimensions. Moreover, they are essential factors that influence the consumption of used goods (Altin Gumussoy, Kaya, & Unal, 2020; Guiot & Roux, 2010). Environmental value has been described in previous studies to be associated with upcycle/circular product attitude (Kim, Jung, & Lee, 2021; Yu & Lee, 2019). In this study, a positive correlation between environmental value (a platform’s ability to gratify users’ environmental concerns) and attitude towards a platform (consumer engagement and platform attachment) is observed. Therefore, environmental value is an essential factor that leads



to consumer engagement and attachment to a platform.

The second part of U&GT focuses on attitudes. According to Vaughan and Hogg (2005) an attitude is referred to as the beliefs, feelings, and behavioural tendencies towards socially significant objects, groups, events, or symbols. The structure of attitude comprises affective and cognitive components that underpin consumer engagement and platform attachment. Therefore, this study will use consumer engagement and platform attachment as attitudinal factors that impact behaviors i.e., continuous use intention and recommendation intention.

Consumer engagement has been described in prior literature as the mental state of readiness that involves the active and sustained processing of information and knowledge exchange (Claffey & Brady, 2014). This means that consumer engagement reflects the cognitive and behavioral component of consumer attitude represented in the U&GT framework defined in this study. Thus, it is a psychological state characterized by a degree of vigor, dedication, absorption, and interaction with the C2C used product platform and its users (Cheung et al., 2014). It is viewed as the nature of specific interactions or interactive experiences that provide information for the consumer decision process (Brodie, Hollebeek, Jurić, & Ilić, 2011). In this study, consumer engagement is viewed as the overall experi-

ence of users of the C2C used product platform (Calder, Malthouse, & Schaedel, 2009). Abdul-Ghani, Hyde, and Marshall (2019) found that consumer engagement in a C2C context is an engagement cycle that includes engagement evoked from consumer experiences, creating value for the consumer, and prompting ongoing consumption activities in a continuous cycle. Therefore, based on Abdul-Ghani et al. (2019) concept of consumer engagement, consumer value dimensions serving as gratification sought will be used as the antecedent of consumer engagement in the C2C used product platform context. Additionally, extant literature has shown that consumer engagement causes various consequences such as ongoing consumption, customer loyalty, and positive word of mouth (Abdul-Ghani et al., 2019; Brodie et al., 2011; Cheung et al., 2014). Hence, this study holds that consumer engagement will lead to continuous use and recommendation intention on C2C used product platforms.

The next dimension of consumer attitude based on U&GT framework considered in this study is platform attachment. Platform attachment is an emotional connection formed between users and the C2C used product platform. Platform attachment is derived from the attachment theory which describes the close bonding relationship between a mother and an infant (Bowlby, 1982). The theory has been extended beyond personal relation-

ship to the interpersonal relationship between firms, places, brands, communities, online platforms, and virtual worlds. For instance, previous research has shown that consumers form attachment to brands through brand self-connection and prominence which affects their actual purchase, the choice of a brand among directly competing brands and brands targeting similar needs (Park, MacInnis, Priester, Eisingerich, & Iacobucci, 2010). Attachment has been further extended to objects or platforms such as social media, mobile phones, and online educational platforms (Graul & Brough, 2021; Li, Teng, & Chen, 2020; Liu et al., 2020; Schifferstein & Zwartkruis-Pelgrim, 2008; Tran, Furner, & Albinsson, 2021). In the context of sharing platforms, Tihamiyu, Quoquab, and Mohammad (2020) found that attachment to Airbnb is influenced by price consciousness, reputation, and unique experience expectations. Concerning information systems literature, Choi (2013) showed that attachment to an information system results from relative classic and expressive visual aesthetics, personalization, and the relative performance of the system, and that this information system attachment leads to community participation intention towards the information system. Likewise, Friedrich (2016) indicated that attachment to technology occurs when the technology reflects oneself through certain features or properties that create proximity maintenance

and security for the user, impacting consumer behaviours such as attitude, intention, and actual usage (Friedrich, 2016). The common theme of these studies is examining how technology can capture its users' emotions, hence creating a bond (attachment) between the technology and the user. Therefore, applying attachment to C2C used-product platforms, this study focuses on the emotional component of attachment (platform attachment) and how it can influence continuous use and recommendation intentions.

Lastly, the study's behavioural element of U&GT is represented by continuous use intention and recommendation intention. The continuous usage of an information system explains how the experience of using a platform affects future usage (Huang, 2021). Previous studies that form the bases of IS continuous usage after adoption include (Limayem, Hirt, & Cheung, 2007; Lin & Bhattacharjee, 2010). According to Huang (2021), extrinsic motivations are more prominent predictors of behavioural intentions, such as continuous use intention and the enjoyment of a platform. In the context of sustainable consumption, Hamari et al. (2016) found that the perceived environmental benefits of second-hand clothing and fashion leadership positively affect the continuous intention of purchasing second-hand items on collaborative consumption platforms. Likewise, extant literature has indicated that consumer engagement and plat-

form attachment significantly impact recommendation intentions.

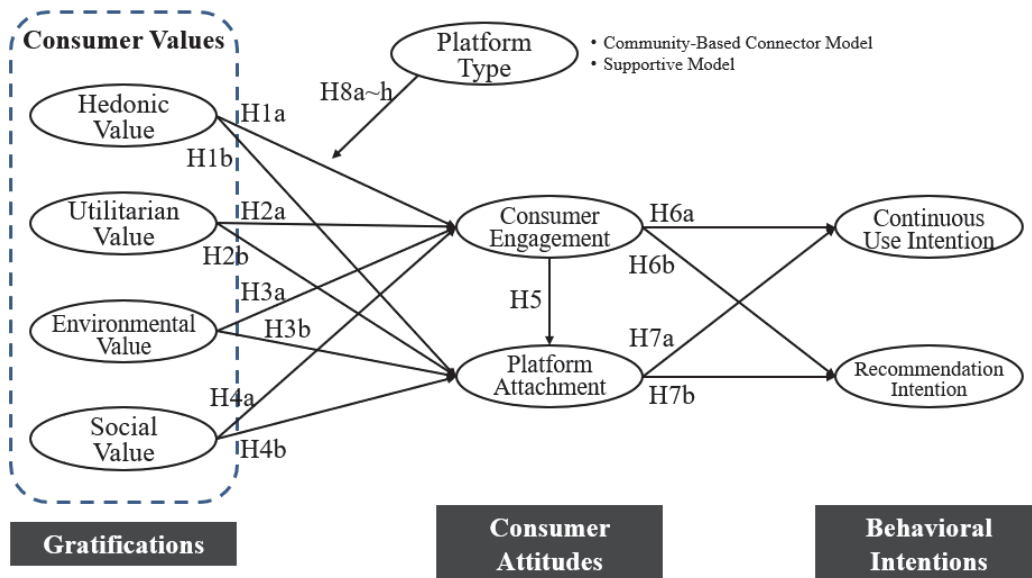
### III. Research model and hypothesis development

Through the lens of U&GT, this study proposes several hypotheses explaining how seeking gratifications in the form of hedonic, utilitarian, environmental, and social values influence attitudes (i.e., consumer engagement and platform attachment), leading to an increase in behavioral intentions (i.e., continuous use intention and recommendation intention) in the online C2C used-product

context. Moreover, it is hypothesized that the relationships among gratifications (consumer values), attitudes, and behavioral intentions would differ according to the two types of C2C used-product platforms (i.e., community-based connector model vs. supportive model). Figure 1 shows the research model.

#### 3.1 The relationship between consumer values and consumer attitudes

Hedonism is extent to which a product or service arouses emotions and creates pleasant experiences (Jahromi & Zhang, 2020). In a previous study, hedonic values have been described as the feelings or affective states generated via consumption experience (Morar,



(Figure 1) Research model based on uses and gratification theory

2013). Thus, hedonic value relates to consumers' emotions towards products or services. Consumer engagement is characterized as the emotional interaction between a service provider and a customer. In the extant literature, consumer engagement is viewed as the overall experience on a platform or the factors that prompt individuals to visit a platform, increase involvement, and recommend it to others (Calder et al., 2009). Previous literature has established that positive emotions (i.e., happiness, contentment, and love) have a positive influence on consumer engagement (Kujur & Singh, 2018), and these emotions can affect interaction intent on social media sites such as Instagram (Casaló, Flavián, & Ibáñez-Sánchez, 2021). Similarly, virtual reality devices evoke positive emotional reactions and high levels of psychological and behavioral engagement (Flavián, Ibáñez-Sánchez, & Orús, 2021). The hedonic values evoked by the platform will thus influence consumers' affective or emotional dimensions, motivating them to engage with the C2C used product platform. In addition, it has been found that engagement with fashion retail apps leads to leisure, the release of stress, relaxation, and reduced pressure (Parker & Wang, 2016). Thus, the use of the app is influenced by hedonic motivations. Therefore, this study proposes that hedonic values will directly influence consumer engagement.

Hedonic motivations positively impact brand

attachment (Tran, Furner, & Albinsson, 2020). For this reason, this study proposes that the emotions aroused due to the hedonic value perceived from C2C used-product platforms will lead to platform attachment. Similarly, the foundational view of hedonic value involves its ability to arouse emotions and create pleasant experiences. These evoked emotions align with the emotional aspects of platform attachment. A significant aspect of attachment is its ability to change the decision-making process, which is why people continue to use an objectively inferior technology despite better alternatives (Friedrich, 2016). Along these lines, Choi (2013) found that an information system's relative expressive visual aesthetic arouses pleasure from its use and leads to a feeling of oneness (i.e., attachment). Therefore, this study proposes that hedonic value will positively influence platform attachment.

*H1a: Hedonic value is positively associated with consumer engagement.*

*H1b: Hedonic value is positively associated with platform attachment.*

Utilitarian value concerning C2C used-product platforms can be defined as how a platform has the quality and performance desired (Sweeney & Soutar, 2001; Yang & Mattila, 2016). The quality of the platform is its ability to offer superior services at the

right economic value (Yang & Mattila, 2016). The performance is related to the platform's ability to provide efficient, convenient, cost-effective, and useful services. Utilitarian value is associated with experiencing goal-directed and practical gratification when adopting and using technologies because the technology helps complete a task or goal (Ma, 2021). Thus, the C2C platform stimulates utility or gratification due to its usefulness in achieving a specific goal.

Extant studies found that utilitarian value impacts consumer engagement (Chen, 2017; Hollebeek, Glynn, & Brodie, 2014). This impact is due to its role in fulfilling users' cognitive, rational, and functional needs via the platform's ability to provide efficiency, good design, high quality, and interactivity (exchange and process of useful information). In other studies, cognitive value, classified as a subset of utilitarian value, directly impacts customer community engagement (Pan, 2020; Wirtz et al., 2013). Prior research has also shown that utilitarian value influences brand attachment. For instance, the functional value related to utilitarian value led to brand attachment in the hotel industry (Liu et al., 2020). Hence, we propose that utilitarian value will lead to platform attachment in this study; if the platform can fulfil users' functional and practical goals via superior performance, they will not easily switch to another platform. In that sense, utilitarian value emanating from

a C2C used-product platform will lead to consumer engagement and platform attachment.

*H2a: Utilitarian value is positively associated with consumer engagement.*

*H2b: Utilitarian value is positively associated with platform attachment.*

Environmental value concerning the C2C platform is how a platform generates concern for the environment. According to the extant literature, environmental value stems from the self-transcendence dimension of the value's circular complex, where self-transcendence is the value that makes individuals focus on the interest of others and the environment, respectively (Bouman, Steg, & Kiers, 2018; Schultz & Zelezny, 1999). According to Bouman et al. (2018), bio-spheric and altruistic values form environmental values that concern the environment and the fair treatment of other human beings. In brief, environmental value is the ability to gratify the pro-environmental beliefs of the users of a C2C platform.

According to previous studies, environmental attitude directly impacts the cognitive and emotional dimensions of consumer engagement (Piligrimienė, Žukauskaitė, Korzilius, Banytė, & Dovalienė, 2020). Hence, we propose that environmental value will directly affect consumer engagement. Likewise, preceding studies have indicated that perceived sustainability and environmental consciousness in-

fluence attitude towards consumption (Ek Styvén & Mariani, 2020). Based on earlier studies that demonstrate environmental value influences attitude, and with platform attachment being considered an attitude, this study proposes that environmental value will directly affect platform attachment.

*H3a: Environment value is positively associated with consumer engagement.*

*H3b: Environment value is positively associated with platform attachment.*

Social value can be described as the ability of a C2C used-product platform to generate and enhance self-image, peer approval, and contribution to a social class or group (Sweeney & Soutar, 2001). Other literature also claims that social value stems from how a platform provides social benefits such as social integration and interaction (Chen, 2017). According to Tran et al. (2020), a C2C used-product platform is a social-centric platform that allows users to create user-generated content to promote interactions with other users through tagging, sharing, rating, commenting, chatting, following the activities of others, and inviting others to social networks (Tran et al., 2021; Zhao & Balagué, 2015). The social benefits of the platform thus include a sense of community, social identity, and interaction. Due to the community-based features, these platforms have high social value.

Consequently, prior literature indicates that social value affects brand attachment (Tran et al., 2020). The literature also suggests that interactivity indirectly influences product attachment via satisfaction (Cho, Lee, & Yang, 2019); cosmopolitanism, a social construct describing the willingness to engage with other cultures, is associated with emotional brand attachment. Hence, social value is expected to impact platform attachment directly. Similarly, extant literature has established that social value leads to consumer engagement (Chen, 2017; Pan, 2020; Piligrimiené et al., 2020). This study also proposes that social value will directly influence consumer engagement in C2C used-product platforms.

*H4a: Social value is positively associated with consumer engagement.*

*H4b: Social value is positively associated with platform attachment.*

### 3.2 The relationships between consumer attitudes and behavioral intentions

The U&GT theory in this study characterizes consumer attitudes to be made up of consumer engagement and platform attachment. Consumer engagement is an emotional bond between service providers and customers, which leads to the customers engaging with the service provider (Sashi, 2012). It is characterized by three dimensions: cognitive, af-

fective, and activation dimension which involve the level of thought processing, degree of emotion, and energy, effort, and time spent in consumer interactions, respectively (Harrigan, Evers, Miles, & Daly, 2018). Thus, consumer engagement is an interactive consumer experience where each dimension have been found to impact self-brand connection, a dimension of brand attachment, which refers to how people bond with a brand cognitively and emotionally (Escalas & Bettman, 2003). Additionally, consumer brand engagement was found to influence brand attachment significantly, particularly the affective dimension of online consumer brand engagement (Escalas & Bettman, 2003). Building on these findings, this paper proposes that consumer engagement influences platform attachment on C2C used product platforms.

*H5: Consumer engagement is positively associated with platform attachment.*

In the U&GT theory framework, behavioral intention is the consequence of consumer attitudes, where the behavioral intention is made up of continuous use and recommendation intention of C2C used product platforms. Continuous use intention is in this described as the intention to continuously use or reuse a C2C used product platform (Santhanamery & Ramayah, 2018). The construct of continuous use intention stems from the concept

of expectation confirmation, where users' experience after using a platform leads to the intention to continuously use it in the future (Huang, 2021). Similarly, recommendation intention in the context of C2C used-product platforms is referred to as the informal communication between users concerning the evaluation of goods and services of the platform to other users (Anderson, 1998). Continuous use intention and recommendation intention are both vital components of loyalty (Molinillo, Anaya-Sánchez, & Liébana-Cabanillas, 2020) and have been described in the extant literature as being significantly influenced by consumer engagement and attachment (from the perspective of emotional, place, or brand attachment) (Abdul-Ghani et al., 2019; Malthouse & Calder, 2015).

Consumer engagement in a C2C context can be described as a psychological state driven by values derived from consumption experiences, which lead to future decisions and behaviors (Abdul-Ghani et al., 2019). Users' experiences with the C2C used product platform creates these values, which in turn foster engagement and subsequently lead to continuous use (Abdul-Ghani et al., 2019). Similarly, in the context of this study, consumer engagement is the intrinsic motivation for users to interact with a C2C used-product platform (Baldus, Voorhees, & Calantone, 2015; Pan, 2020). The interaction with the platform causes users to gain information,

knowledge, and satisfactory experiences, which encourages them to share and help other new, existing, and potential users via word-of-mouth, micro-blogs, and social media (Pan, 2020). Consumer engagement has been described as influencing the recommendation intention through different situations, including brand communities, social media, and social commerce. Therefore, this study proposes that consumer engagement impacts both continuous use intention and recommendation intention of C2C used product platforms.

*H6a: Consumer engagement is positively associated with continuous use intention.*

*H6b: Consumer engagement is positively associated with recommendation intention.*

Platform attachment, on the other hand, refers to the emotional bond that users develop, which involves the feeling of dependence and identification toward a cC2C used product platform. Thus, users of the C2C used product platform form an emotional connection the platform because it fulfils user's utilitarian, hedonic, social, and environmental needs, as well as its characteristics aligning with their self-identity. This arouses an emotional attachment which subsequently leads to continuous use intention. In addition, previous studies by Jin, Yoon, and Ji (2013)

suggest that used the phases of product adoption to claim attachment to products, platform attachment is a short-term factor generated at the early stages of product adoption, while continuous use intention is created at the later stages of product adoption. Thus, platform attachment is an antecedent of continuous use intention. Likewise, users attached to a platform are likely to recommend it to existing or potential users, informing them of the arousal and pleasure they enjoy from using it. Previous studies on attachment in different contexts, such as place attachment and brand attachment, have all indicated that attachment to a place or a brand via emotional bonding or identification with it strongly leads to the intention to recommend (Culha, 2020; Loureiro, 2014; Prayag, Chen, & Del Chiappa, 2018; Sthapit, Björk, & Coudounaris, 2017; Xu & Gursoy, 2020). In the same vein, this study proposes that users of C2C used-product platforms who develop an attachment to a platform or identify with it through the arousal and pleasure it provides will have the intention to recommend the platform.

*H7a: Platform attachment is positively associated with continuous use intention.*

*H7b: Platform attachment is positively associated with recommendation intention.*



### 3.3 The moderating effect of platform type

online. As discussed above, it can be categorized into a community-based connector model (e.g., Danggeun Market) and a supportive model (e.g., Joonggonara). The community-based connector model is characterized by the geographical proximity-based platform, with underlying social capital and identity, which creates indirect trust, loyalty, and satisfaction, and influences consumption attitude (Hsiao & Dillahunt, 2021; Kim & Yoon, 2021). Due to its social capital benefits, the community-based connector model can enhance the influence of value in attitudinal dimensions (consumer engagement and platform attachment). On the other hand, the supportive model (e.g., Joonggonara) provides supportive tools to enable used-product transactions on the platform. Still, its institutional mechanism is not natural and hence ineffective in facilitating buyer trust and willingness to transact (Ruttell, 2018). As such, this study proposes that a community-based connector model will have a more substantial effect on the relationship between consumer values and consumer engagement/platform attachment than a supportive model.

*H8a-h: In a community-based connector model, the relationship strengths between consumer values (i.e., hedonic, utilitarian, environmental,*

*and social values) and consumer attitudes (i.e., consumer engagement and platform attachment) are greater than in a supportive model.*

## IV. Methodology

### 4.1 Data collection

A descriptive cross-sectional study was employed to collect data to answer research questions and fulfill research purposes. The research model was empirically examined using survey questionnaire data collected from C2C used-product platform users in South Korea from September to October 2021 with the help of the Korea IT Service Society.

The questionnaire allowed only users with more than three months of experience with the top two C2C used-product platforms in South Korea (i.e., Danggeun Market and Joonggonara).

Danggeun Market is a hyperlocal C2C platform that has a represents that was operationally launched in 2015. The feature of the platform includes allowing for direct transactions between users, with payment during transactions being direct payments and via its own pay known as "Danggeun Pay". The means of contact between users on this platform is via chatting and In-app phone call.

〈Table 2〉 Demographics of participants ( $n = 410$ )

Demographics	Categories	Frequency	Percent
Gender	Male	191	46.6
	Female	219	53.4
Age	18-25	28	6.8
	26-30	37	9.0
	31-35	52	12.7
	36-40	48	11.7
	41-45	54	13.2
	46-50	54	13.2
	51-55	49	12.0
	56-60	41	10.0
	61 or Above	47	11.5
Platform type	Dangeun Market (community-based connector model)	215	52.4
	Joonggonara (supportive model)	195	47.6
Transaction type	Buy only	107	26.1
	Sell only	113	27.6
	Buy and sell	189	46.1
	Others	1	0.2
Education	High school graduation or less	51	12.4
	College degree	21	5.1
	Bachelor's degree	285	69.5
	Master's degree	12	2.9
	Doctorate degree or above	41	10.0
Occupation	Student	24	5.9
	Office worker	220	53.7
	Professional	36	8.8
	Part-time employee	8	2.0
	Freelancer	16	3.9
	Self-employed	32	7.8
	stay-at-home parents	46	11.2
	Unemployed	23	5.6
	Others	5	1.2
Monthly income	Less than 100,000 Korean Won (KW)	14	3.4
	100,000 - 300,000 KW	68	16.6
	300,000 - 500,000 KW	72	17.6
	500,000 - 1 million KW	109	26.6
	1 million - 2 million KW	56	13.7
	2 million - 3 million KW	21	5.1
	3 million - 4 million KW	26	6.3
	4 million - 5 million KW	15	3.7
	More than 5 million KW	29	7.1
Platform usage period	Less than one year	31	7.6
	One year	46	11.2
	Two years	90	22.0
	Three years	77	18.8
	Four years	17	4.1
	Five years	110	26.8
	More than six years	39	9.5
Platform average usage time	Less than 30 minutes	180	43.9
	30 minutes to 1 hour	122	29.8
	1 to 2 hours	63	15.4
	2 to 3 hours	22	5.4
	3 to 4 hours	11	2.7
	4 to 5 hours	6	1.5
	5 to 6 hours	6	1.5

One key feature of Dangguen Market is that it does not charge transaction fee and enables users to be exposed to products near them (KCA 2022).

On the other hand, Joongonara which is an example of supportive model of a C2C used product platform was established in 20003. It uses a delivery transaction method by facilitating product delivery for users when a transaction is completed. Its payment method includes non-face-to-face safe payment and direct transaction payment and the main means of contact between users is through mobile phone number, email\*\* (Naver Café), and Chat (app) integrated in its mobile App.

Lastly, its charges 3.5% of transaction amount as safety payment fee. (KCA, 2022)

There were no incomplete responses, which led to 467 responses received. Nevertheless, 410 responses (215 from Danggeun Market users and 195 from Joonggonara users) were ultimately used for analysis, excluding 57 insincere responses. This meets the sample size suggested by extant literature in undertaking a partial least square structural equation model (PLS-SEM) analysis (Hair, Ringle, & Sarstedt, 2011; Ringle, Wende, & Becker, 2015; Souza, d’Angelo, & Lima Filho, 2022). Table 2 provides the demographic information of the survey participants.

〈Table 3〉 Operational definitions of constructs

Construct	Operational definition	References
Hedonic value	A platform’s ability to generate feelings, pleasure, or affective states	Morar (2013); Sweeney and Soutar (2001)
Utilitarian value	The benefit, utility, or performance derived from the platform	Morar (2013); Sweeney and Soutar (2001); Tandon, Kaur, Bhatt, Mäntymäki, and Dhir (2021)
Environmental value	The platform’s ability to generate concern for the environment	Bouman et al. (2018)
Social value	The platform’s ability to generate and enhance self-image, peer approval, and contribution to a social class or group	Sweeney and Soutar (2001); Tandon et al. (2021)
Consumer engagement	The cognitive psychological process or mental state experienced by users towards a platform	Bowden (2009); Brodie et al. (2011)
Platform attachment	The degree of emotional bond experienced by users towards a platform	Cho et al. (2019)
Continuous Use Intention	The intention of users to continuously use or reuse a platform	Chen and Moon (2015); Santhanamery and Ramayah (2018)
Recommendation intention	The intention of users to recommend a platform to others	Finn, Wang, and Frank (2009); Lee et al. (2021)

## 4.2 Measurement

Measurements for this study were adapted from previously validated studies to fit this study better. Continuous use intention was measured with four questionnaire items adapted from (Veeramootoo, Nunkoo, & Dwivedi, 2018); recommendation intention was measured with three indicators from (Lee, Sheehan, Lee, & Chang, 2021); consumer engagement was measured with six items from (Vivek, 2009); and platform attachment was measured with five indicators adapted from (Cho et al., 2019; Schifferstein & Zwartkruis-Pelgrim, 2008). Additionally, regarding the consumption value dimensions, hedonic and utilitarian values were measured with six and four indicators, respectively, adapted from (Ashraf, Hou, & Ahmad, 2019); environmental value was measured with four items from (Bouman et al., 2018); and social value was measured with three items from (Martin, Upham, & Klapper, 2017). The operational definition of constructs and their related references are presented in Table 3.

## V. Data analysis and results

### 5.1 Measurement model

The quality of the measurement model was

assessed by validating convergent validity, internal consistency reliability, and discriminant validity. Convergent validity was confirmed using factor loadings and the average variance extracted (AVE) values of each item. Table 4 presents factor loadings and the AVE values for all indicators that meet the threshold of 0.7 and 0.5, respectively. Then, Cronbach's alpha and the composite reliability (CR) values of each item were checked to confirm internal consistency reliability. The results in Table 4 show that the values for all indicators exceed the threshold value of 0.70, indicating sufficient internal consistency reliability.

Finally, discriminant validity was assessed using two methods. First, the square root value of the AVE for each construct was compared with the inter-construct correlation coefficients (Fornell and Larcker (1981)). The results in Table 5 reveal that all the square root values of the AVE are higher than their construct correlations, indicating discriminant validity was confirmed based on Fornell-Larcker's (1981) criterion. Second, following Henseler, Ringle, and Sarstedt (2016) recommendation, discriminant validity was assessed by calculating the heterotrait-monotrait (HTMT) ratios. In Table 6, the HTMT coefficients for all measures were below the threshold of 0.90, supporting the discriminant validity of the measures (Garson, 2016; Henseler et al., 2016).

<Table 4> Measurement model statistics

Construct	Item	Factor loadings*	Cronbach's $\alpha$	Composite reliability (CR)	Average variance extracted (AVE)
Hedonic value (HV)	HV1	0.844	0.936	0.949	0.757
	HV2	0.886			
	HV3	0.907			
	HV4	0.863			
	HV5	0.840			
	HV6	0.878			
Utilitarian value (UV)	UV1	0.852	0.857	0.903	0.700
	UV2	0.810			
	UV3	0.856			
	UV4	0.828			
Environmental value (EV)	EV1	0.890	0.909	0.936	0.785
	EV2	0.888			
	EV3	0.883			
	EV4	0.883			
Social value (SV)	SV1	0.893	0.849	0.908	0.768
	SV2	0.888			
	SV3	0.846			
Consumer engagement (CE)	CE1	0.859	0.929	0.945	0.739
	CE2	0.863			
	CE3	0.839			
	CE4	0.873			
	CE5	0.855			
	CE6	0.869			
Platform attachment (PA)	PA1	0.870	0.934	0.950	0.79
	PA2	0.888			
	PA3	0.900			
	PA4	0.907			
	PA5	0.879			
Continuous use intention (CI)	CI1	0.875	0.875	0.914	0.727
	CI2	0.844			
	CI3	0.841			
	CI4	0.850			
Recommendation intention (RI)	RI1	0.898	0.854	0.911	0.774
	RI2	0.889			
	RI3	0.851			

\* All factor loadings were significant at  $p < 0.01$  (two-tailed).

〈Table 5〉 Construct correlations and discriminant validity based on Fornell and Larcker's (1981) criterion

Constructs	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HV (1)	<b>0.870</b>							
UV (2)	0.735	<b>0.837</b>						
EV (3)	0.648	0.663	<b>0.886</b>					
SV (4)	0.799	0.659	0.679	<b>0.876</b>				
CE (5)	0.773	0.702	0.644	0.737	<b>0.860</b>			
PA (6)	0.803	0.662	0.643	0.799	0.837	<b>0.889</b>		
CI (7)	0.487	0.659	0.505	0.445	0.607	0.511	<b>0.853</b>	
RI (8)	0.648	0.727	0.638	0.608	0.764	0.693	0.768	<b>0.880</b>

\* The diagonal elements in bold italics are the square root values of the AVE.

〈Table 6〉 Discriminant validity based on the heterotrait-monotrait ratio (HTMT) criterion

Constructs	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HV (1)								
UV (2)	0.818							
EV (3)	0.701	0.751						
SV (4)	0.896	0.774	0.775					
CE (5)	0.827	0.786	0.7	0.829				
PA (6)	0.858	0.735	0.697	0.897	0.897			
CI (7)	0.536	0.761	0.566	0.518	0.672	0.559		
RI (8)	0.722	0.85	0.724	0.715	0.857	0.771	0.889	

## 5.2 Structural model

Model fit was tested before reporting the results of the hypotheses test, with a standardized root mean square residual (SRMR) and a normed fit index (NFI) (Ramayah, Yeap, Ahmad, Halim, & Rahman, 2017). The SRMR, which is the difference between the residuals of the sample correlation matrix and the model correlation matrix, has a threshold of 0.08; if

its value is lower than the threshold, it is considered a good fit. In the study, the SRMR was 0.046, indicating a good model fit. Also, the NFI measures model fit by computing the chi-squared value of the proposed model in comparison with a meaningful benchmark (Bentler & Bonett, 1980), which is usually 0.9 for an acceptable fit. The NFI value for this study was 0.861, which is approximately 0.9; hence, an acceptable model fit was met.

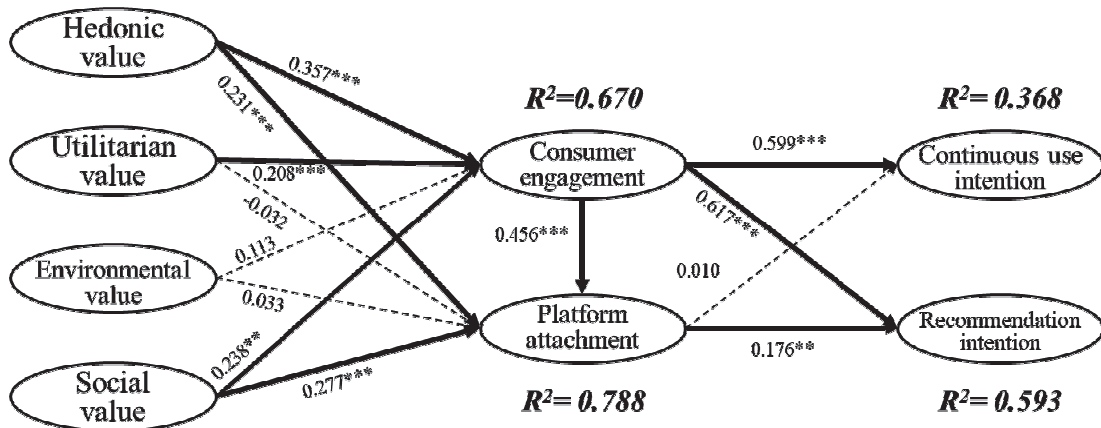
Then, the structural model was tested using PLS-SEM analysis to test hypotheses developed. As shown in Table 7 and Figure 2, nine out of thirteen hypotheses in the research model were supported. Hedonic value had a positive influence on both consumer engagement ( $\beta = 0.357, p < 0.001$ ) and platform attachment ( $\beta = 0.231, p < 0.001$ ). Utilitarian value also had a positive impact on consumer engagement ( $\beta = 0.208, p < 0.001$ ), but did not have a significant influence on platform attachment ( $\beta = -0.032, p < 0.588$ ). Environmental value, on the other hand, did not significantly influence consumer engagement ( $\beta = 0.113, p < 0.081$ ) nor platform attachment ( $\beta = 0.033, p < 0.528$ ). However, social value was found to strongly influence consumer engagement

( $\beta = 0.238, p < 0.001$ ) and platform attachment ( $\beta = 0.277, p < 0.001$ ). In addition, the results indicate that consumer engagement has a strong positive effect on platform attachment ( $\beta = 0.456, p < 0.001$ ), continuous use intention ( $\beta = 0.599, p < 0.001$ ), and recommendation intention ( $\beta = 0.617, p < 0.000$ ), while platform attachment has a significant impact only on recommendation intention ( $\beta = 0.176, p < 0.007$ ), not continuous use intention ( $\beta = 0.01, p < 0.903$ ). Accordingly, hypotheses H1a, H1b, H2a, H4a, H4b, H5, H6a, H6b, and H7b were supported, whereas H2b, H3a, H3b, and H7a were not supported. Overall, approximately 67 percent ( $R^2 = 0.670$ ) and 79 percent ( $R^2 = 0.788$ ) of the variance in consumer engagement and platform at-

<Table 7> Summary of the hypotheses testing

Hypothesis	Path	$\beta$	Standard deviation	t-Statistic	Variance inflation factor (VIF)	Result
H1a	HV → CE	0.357***	0.072	4.981	3.528	Supported
H1b	HV → PA	0.231***	0.062	3.718	3.914	Supported
H2a	UV → CE	0.208***	0.062	3.346	2.508	Supported
H2b	UV → PA	-0.032	0.059	0.542	2.508	Not supported
H3a	EV → CE	0.113	0.065	1.743	2.201	Not supported
H3b	EV → PA	0.033	0.052	0.631	2.240	Not supported
H4a	SV → CE	0.238***	0.073	3.274	3.169	Supported
H4b	SV → PA	0.277***	0.053	5.218	3.341	Supported
H5	CE → PA	0.456***	0.057	7.995	3.034	Supported
H6a	CE → CI	0.599***	0.078	7.721	3.347	Supported
H6b	CE → RI	0.617***	0.065	9.566	3.347	Supported
H7a	PA → CI	0.01	0.080	0.121	3.347	Not supported
H7b	PA → RI	0.176**	0.066	2.676	3.347	Supported

\*:  $p < 0.05$ ; \*\*:  $p < 0.01$ ; \*\*\*:  $p < 0.001$ ,  $\beta$  = Path coefficient



\*:  $p < 0.05$ ; \*\*:  $p < 0.01$ ; \*\*\*:  $p < 0.001$

〈Figure 2〉 Estimation results of structural equation

tachment were explained by the antecedent variables (consumer values), respectively. Also, consumer engagement and platform attachment explained about 37 percent and 59 percent of the variance in continuous use intention ( $R^2 = 0.368$ ) and recommendation intention ( $R^2 = 0.593$ ), respectively. These findings suggest that the  $R$ -squared values have a moderate predictive accuracy (Chin, 1998).

### 5.3 Multigroup analysis for the moderating effect of platform type

Conducting multi-group analysis (MGA), it was assessed whether there is a significant difference in path coefficients between a community-based connector model (i.e., Danggeun Market) and a supportive model (i.e., Joonggonara). This analysis was done

by selecting each path coefficient in the structural model and running a complete bootstrap via MGA (Henseler et al., 2016). The results of MGA in Table 8 reveal that there is no significant difference between the samples of Danggeun Market and Joonggonara, indicating that platform type does not increase the magnitude of influence of exogenous variables (i.e., consumer values) on endogenous variables (i.e., consumer engagement and platform attachment) in the structural model. Thus, all the hypotheses of H8 (H8a-h) were rejected. Table 8 shows that all the path relationships of Danggeun Market and Joonggonara are similar except for the effect of environmental value on consumer engagement, which is only significant for Danggeun Market.



<Table 8> Multigroup analysis of platform type - Danggeun Market and Joonggonara

Hypothesis	Path	Path coefficient (PC)		Standard deviation		t-Statistic		p-Value (DM vs. JN)	Result
		DM	JN	DM	JN	DM	JN		
H8a	HV → CE	0.359***	0.307**	0.077	0.111	4.671	2.781	0.699	Not Supported
H8b	HV → PA	0.240**	0.200*	0.081	0.096	2.968	2.085	0.747	Not Supported
H8c	UV → CE	0.251**	0.204*	0.079	0.086	3.168	2.378	0.700	Not Supported
H8d	UV → PA	0.035	-0.032	0.052	0.084	0.669	0.384	0.491	Not Supported
H8e	EV → CE	0.167**	0.063	0.060	0.108	2.755	0.590	0.408	Not Supported
H8f	EV → PA	0.062	0.006	0.056	0.082	1.103	0.071	0.582	Not Supported
H8g	SV → CE	0.166*	0.305*	0.075	0.124	2.225	2.465	0.336	Not Supported
H8h	SV → PA	0.240***	0.323***	0.057	0.092	4.216	3.521	0.445	Not Supported

\*:  $p < 0.05$ ; \*\*:  $p < 0.01$ ; \*\*\*:  $p < 0.001$ ; DM = Danggeun Market; JN = Joonggonara

## VI. Discussion and implications

### 6.1 Research findings

Based on U&GT, this study examines the influence of gratifications (i.e., consumer values - hedonic, utilitarian, environmental, and social values) on consumer attitudes (i.e., consumer engagement and platform attachment), which in turn lead to behavioral intentions (i.e., continuous use intention and recommendation intention) in the context of C2C used-product platforms. Moreover, the moderating role of platform type (i.e., com-

munity-based connector model vs. supportive model) in the relationship between consumer values and consumer attitudes is investigated. The results of PLS-SEM indicate that hedonic, utilitarian, and social values positively impact consumer engagement (H1a, H2a, and H4a supported), while hedonic and social values have a positive effect on platform attachment (H1b and H4b supported). Furthermore, consumer engagement positively influences platform attachment, continuous use intention and recommendation intention (H5, H6a, H6b supported), whereas platform attachment has a positive effect only on recommendation intention (H7b supported). Finally, the mod-

erating effect of platform type is not found, indicating that there is no difference in the mechanism of consumer attitudes and behavioral intentions building between the two different types of C2C used-product platforms (H8a-h not supported).

The significant influence of hedonic, utilitarian, and social values on consumer engagement is in line with previous studies where value was found to impact engagement (Abdul-Ghani et al., 2019; Chen, 2017; Pang, 2021; Parker & Wang, 2016). Thus, with hedonic value, the positive emotions evoked by the platform, such as happiness, contentment, and love (Kujur & Singh, 2018), can motivate users to engage in the platform. Similarly, the platform's ability to offer desired used products and assist users in completing their tasks can stimulate consumer engagement on the platform (Ma, 2021). Also, if the C2C used-product platform helps users better interact with the platform and other users, a strong sense of community and social identity can be created in consumers' minds, which increases the level of their engagement on the platform. Thus, social values evoked by the platform can motivate users to engage in the platform. However, it was not found that environmental value increases consumer engagement (H3a not supported). The lack of influence on consumer engagement can be attributed to varying user motivations, with environmental concerns not resonating strongly with all users. Additionally,

users prioritize primary factors such as product quality, price, and selection of alternatives product over environmental impact when engaging with the platform. Users of C2C used product platforms also may tend to have psychological distance towards environmental issues, perceiving them as distant and abstract, hence diminishing engagement.

On the other hand, it is found that hedonic and social values are the only factors that strongly affect platform attachment. This finding is supported by previous studies where hedonic and social values influence brand attachment (Liu et al., 2020; Tran et al., 2021). However, contrary to expectation, the effect of utilitarian and environmental values on platform attachment is not found (H2b and H3b not supported). The reason utilitarian values do not influence platform attachment could be attributed to utilitarian value predominantly catering to the functional practical needs of users as well as users might prioritize building relationships with individual sellers over forming an attachment to the C2C used product platform itself, emphasizing the significance of reliable seller interactions. Also, the transactional nature of interaction on the C2C used product platform, and users' engagement based on specific consumption needs, could contribute to diminishing attachment to the C2C used product platform because user engage on the platform only when they need it and with engagement being lim-

ited to only buying or selling. This limited engagement might not foster a strong emotional attachment to the C2C used product platform. Another reason can be attributed to cultural differences. For instance, an extant study found that subjective norm, economic value, and hedonic value, rather than utilitarian value, are critical factors influencing the used-clothing purchase decision of young Chinese consumers (Xu, Chen, Burman, & Zhao, 2014). Given the strong cultural similarities between China and South Korea, it is presumed that utilitarian value may not a solid gratification for being attached to a platform related to the consumption of used products.

Additionally, environmental value does not significantly affect platform attachment as well (H3b not supported). In relation to the non-significant influence of environmental value on platform attachment, the reasons for such an effect can be attributed to users not prioritizing environmental value to be a significant factor influence their attachment to the C2C used product. This is aligned with previous research that have shown that attachment is driven by memorable hedonic experience and C2C social interactions (Li, So, & Hudson, 2023; Xu, Xue, Wang, Gursoy, & Song, 2021). That is, the hedonic and social value users enjoy from the platform overshadow any environmental considerations for certain users. Also, some users might not be partic-

ularly interested in environmental issues or may not be aware of the platform's environmental initiatives. If the platform's environmental efforts are not prominently featured or communicated, they might not view it as a significant factor that influences their attachment to the C2C used product platform.

This study reveals that consumer engagement substantially influences platform attachment, continuous use intention, and recommendation intention (H5, H6a, and H6b supported). First, the significant relationship between consumer engagement and platform attachment coincides with Qing and Haiying (2021), which found that the cognitive aspect of engagement influences affection (i.e., emotional attachment) towards a platform, leading platform users to spend more time, energy, and money on the platform. Since attachment was seen as a consequence of consumer engagement (Brodie et al., 2011), attachment to C2C used-product platforms develops as users engage with these platforms by selecting, sharing, selling products of interest, and monitoring potential products for purchase via product notification services. Second, the strong impact of consumer engagement on continuous use intention of C2C used-product platforms agrees with previous literature (Abdul-Ghani et al., 2019; Malthouse & Calder, 2015; Qing & Haiying, 2021). Thus, the consumer value dimensions of hedonic, utilitarian, and social value create a

cognitive and affective process activated as an engagement with the platform, leading to continuous use intention. Third, the significant impact of consumer engagement on recommendation intention is also consistent with previous research conducted in different contexts (Chan, Zheng, Cheung, Lee, & Lee, 2014; Martínez-López, Anaya-Sánchez, Molinillo, Aguilar-Illescas, & Esteban-Millat, 2017; Messner, 2020; Molinillo et al., 2020). Engaged users will actively participate on a platform and gain a positive perception of their relationship with the platform. Hence, enabling consumer engagement can significantly impact recommendation intention on a platform.

The study also reveals that platform attachment influences recommendation intention (H7b supported) but does not affect continuous use intention (H7a not supported). This impact on recommendation aligns with prior studies (Culha, 2020; Prayag et al., 2018; Sánchez-Fernández & Jiménez-Castillo, 2021; Sthapit et al., 2017). The C2C used product distinct attributes such as such as proximity-based discovery of unique items, personalized searches, and social engagement features like chatting and forums, evoke a sense of community and nostalgia, prompting users to share experiences. However, the study also found that platform attachment does not significantly affect continuous use intention, which is contrary to previous research in other contexts (Friedrich, 2016; Ghorbanzadeh &

Rahehagh, 2021; Japutra, Ekinci, & Simkin, 2014). This could be due to users using the C2C used product platform during certain periods in their life such as moving, decluttering, or upgrading, and the C2C used product platforms fulfilling specific needs that arise irregularly. Users may not require continuous use of the platform when these needs are fulfilled. Furthermore, competition from alternate sources like local markets and other online platforms. Based on these reasons, this shows that users of C2C used product may be aroused and attached to the platform, but that does not necessarily lead to continuous usage (Chaudhuri, Aboulnasr, & Ligas, 2010).

Lastly, another aim of this study was to examine whether platform type (i.e., a community-based connector vs. supportive) has a moderating role in the relationship between consumer values and consumer attitudes. MGA results indicate that neither Danggeun Market (community-based connector model) nor Joonggonara (supportive model) increases the strength of such relationship. Thus, platform type does not have a significant moderating effect (H8a-h not supported). This finding can be attributed to the evolving nature of C2C platforms in implementing common technologies and copying each other's features to better fit the current trend of user behavior. For instance, Joonggonara was not originally built with community-based features, where users could

trade used products all over South Korea. Nonetheless, due to the success of Danggeun Market's community-based features, ensuring that users in a specific community can only use the platform to trade among themselves, Joonggonara has currently added such features to its platform. Such actions blur the lines of differentiation between the platforms.

## 6.2 Theoretical implications

This study makes several contributions to research. First, it is one of the first to explore factors that influence the continuous use intention of C2C used-product platforms, which have gained extensive popularity in South Korea, especially during the COVID-19 pandemic. Thus, this study extends current research on online used-product commerce (Lang & Joyner Armstrong, 2018; Park, 2021) and C2C-based mobile commerce (Leonard, 2010, 2016) by recommending a comprehensive framework incorporating the gratification sought by C2C used-product platform users. This framework incorporates multi-dimensional consumer values (i.e., hedonic, utilitarian, social, and environmental values), consumer attitudes (i.e., consumer engagement and platform attachment), and behavioral intentions (i.e., continuous use intention and recommendation intention) in the context of C2C used-product platforms.

Second, although previous studies have con-

sidered gratifications sought in the form of utilitarian and hedonic values (Cai & Wohn, 2019), the current study expands U&GT by including environmental and social aspects of gratification through a lens of multi-dimensional factors of consumer value. This consideration broadens the spectrum of gratification and improves the understanding of the factors influencing C2C platforms in general.

Third, this study adds to the literature on attachment theory, which has been applied to products and brands in previous studies (Bae & Kim, 2015; Ghorbanzadeh & Rahehagh, 2021; Graul & Brough, 2021; Mugge, Schifferstein, & Schoormans, 2010; Park et al., 2010; Patwardhan & Balasubramanian, 2011; Schifferstein & Zwartkruis-Pelgrim, 2008). This study supports the minimal literature indicating that attachment theory can be applied to information technology (Friedrich, 2016), specifically in dealing with C2C used-product platforms. Thus, based on this study, it is confirmed that emotional attachment to a platform is a strong predictor of behavior by capturing emotionally charged behaviors (Friedrich, 2016).

Lastly, this study adds to the literature on continuous use and recommendation intentions in the context of C2C used-product platforms or the sharing economy, specifically in terms of consumer loyalty. Research findings reveal that consumer engagement and platform attachment evoked by consumer values strongly

influence continuous use and recommendation intentions. Thus, with continuous use intention and recommendation intention being significant components of loyalty (Molinillo et al., 2020), it can be deduced that consumer engagement and platform attachment strongly impact loyalty to C2C used-product platforms.

### 6.3 Practical implications

The implication of using C2C used product platforms in relation to design is that these platforms should leverage user data and past interactions to implement personalized recommendations and product and service tailored towards users hedonic, social, and utilitarian value preferences to enhances user experiences, reinforces attachment, keeps users engaged and interested, and encourages them to continuously use and recommend the platform or items on the platform to others. Additionally, C2C used product platform operators can incorporate interactive and gamification features like polls, quizzes, badges, rewards, or loyalty programs that tap into users' hedonic values and provide them with a sense of achievement, engagement, and attachment. User-friendly features should also be designed, making it easier for users to navigate, search, filter options, and find items that fulfill users' utilitarian values. Visual appeal and effective communication of both utilitarian and hedonic values through high-

quality images, videos, and descriptions are crucial.

In terms of managerial implications, clear guidelines should be established, quality control measures implemented, and a diverse range of sellers encouraged to offer a variety of products that fulfill users' hedonic and utilitarian needs. Responsive and empathetic customer support and feedback should be provided to address any issues promptly and nurture a positive emotional connection with users. Referral programs can be implemented to reward users for recommending the platform, incentivizing them to share their positive experiences. Regularly updating content, products, and features will help maintain users' interest and engagement.

Finally, effective marketing strategies can be developed based on the result of the study by segmenting users based on their utilitarian, hedonic, or social values and creating or advocating that sellers create marketing messages that highlight specific value propositions to invoke users' engagement and attachment. Another marketing strategy is for the sellers and C2C used product platform managers to develop a brand identity that aligns with users' values and encouraging users to share their experiences and reviews will foster engagement, attachment, and continuous usage and recommendation intentions.

## 6.4 Limitations and future research

This study has several limitations. Firstly, the research design used cross-sectional analysis, which only allows for associative inferences rather than establishing causal relationships. Future studies should employ more sophisticated research designs, such as experiments and panel data, and consider different demographics to obtain more accurate insights into user experiences. Longitudinal studies would also be valuable in tracking user behavior and attitudes over time, providing a deeper understanding of the relationship between consumer engagement, platform attachment, continuous use, and recommendation intention.

Secondly, the study found no significant impact of platform type as a moderating variable on the relationship between consumer value, engagement, and platform attachment. Therefore, future research could explore other demographic variables, such as income, platform usage duration, and educational background. Additionally, investigating the moderating effect of psychological distance, which refers to the perceived emotional or mental distance between users and the C2C used product platform, would be beneficial. Previous studies have demonstrated the influence of psychological distance on consumer attitudes and behavior in online platforms. Hence, future research should examine how different levels

of psychological distance moderate the relationship between consumer engagement, attachment, continuous use intention, and recommendation intention.

Lastly, the study's focus on South Korean C2C used-product platforms limits its generalizability. To enhance the model's generalization and external validity, future research should conduct comparative analyses across multiple countries. It is also important to explore different dimensions of consumer value, such as economic, instrumental, epistemic, and conditional value. In-depth interviews with users of C2C used product platforms should be considered to investigate the specific platform attributes that influence their attitudes and behavioral intentions. Additionally, examining the role of perceived usefulness, ease of use, switching costs, and other individual and contextual factors that may impact behavioral intentions toward C2C used product platforms would provide valuable insights.

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