Empirical Finding on the Determinants of Collective Consumption: Focused on Consumption Values, Trust, and Perceived Risk

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Abstract: The rapid advances in information and communications technologies, combined with increased social awareness of today’s consumers, ushered in transformation in consumers’ purchase behavior. This big shift away from the traditional ownership-based economy into a sharing economy is causing an urgent necessity to understand the shifted decision mechanism. Although there have been quite a few previous studies on antecedents of consumers’ decision to engage in collective consumption, it is somewhat difficult to find previous research that focused on consumption values as antecedent predictors. To abridge this gap, this study aims to determine whether two predictors (social value and ethical value) affect consumers’ intention to utilize collective consumption. In addition, the current study verifies the role of perceived risk as a moderator between perceived trust and the intention to use collective consumption. For the purpose of hypothesis verification, the study uses multiple regression and hierarchical moderated regression analysis. Responses from a total of 246 respondents are used for statistical analysis. The respondents were selected from the students attending a university located in Seoul, South Korea. The results indicate that social value and ethical value exerted significant impacts on the perceived trust of collective consumption. However, the magnitude of the social value’s impact was slightly greater than that of ethical value. The result also confirms the mediating role of the perceived trust. Furthermore, perceived risk moderated the relationship between trust and the intention to utilize collective consumption.

Keywords: collective consumption; social value; ethical value; trust; perceived risk

1. Introduction

From the recent development of information and communications technology (ICT), computers, as well as tablet PCs and smartphones, have become popular, propelled by the progress of the “Internet of Things” and location-based technology. The popularization of ICT gave way to the rapid growth of collective consumption by virtue of efficient communication among users, reduced transaction costs, ease of peer-to-peer (P2P) trading, and increased consumer participation. The current Fourth Industrial Revolution is broadening the realm of sharing with its online-to-offline (O2O) platform. While the traditional economy was oriented around the product economy that focuses on hardware and software, the new era of the convergence economy, when data and services circulate in tandem, has begun. This feature, to a large degree, is causing a significant change in the consumption pattern as it shifts from ownership to sharing or loaning. Atsushi Miura named this shift to a sharing society the “fourth consumption” [1]. The collective consumption market, which represents this new sustainable economy, is expected to grow from USD 15 billion in 2015 to USD 335 billion in 2025. What then is the major impetus behind such a fast growth of collective consumption? An online domain, compared to an offline domain, has higher sharing value because of low connection costs and increasing returns of scale. In other
words, collective consumption is flourishing around platforms within the O2O market that converges two worlds of ownership and sharing.

Although there are some previous studies on consumers’ intention to use collective consumption, research approaching it from the social and ethical perspectives of consumption is relatively scant. Especially, empirical research on consumers’ perception of the collective consumption is mostly exploratory in nature, lacking a strong theoretical basis [2,3]. As the rapid development of the collective consumption market creates new business opportunities from many sectors of society, it seems high time to deepen understanding of this novel economic phenomenon. Considering this, studying consumers’ perceptions or values associated with collective consumption seems highly warranted at this juncture. Against this background, this study empirically investigates the relationships among the perceived values toward collective consumption, the trust of collective consumption, and the intention to use collective consumption. Based on the literature review on collective consumption, this study adopts consumers’ social values and ethical values as predictors of the intention to use collective consumption. A few examples of the existing literature have shown the importance of trust as a factor affecting the use of collective consumption [4,5], but it is hard to find previous research that verified trust as a moderator between values and the intention to use collective consumption.

In view of this void in the previous literature, the purpose of this study is as follows. First, the study verifies the impact of the social and ethical values of people on trust toward collective consumption. Second, the study determines how the users’ perceived trust of collective consumption influences the intention to use it. Third, the study explores whether the perceived risk of collective consumption has a moderating effect on the relationship between trust and the intention to use it. At this point of time, when collective consumption is full-fledged, the current study is expected to provide important information about consumers’ underlying psychological mechanisms that trigger the use of collective consumption.

2. Theoretical Background

2.1. Collective Consumption

In 1984, Martin L. Weitzman first coined the term “collective consumption”, and the current concept of collective consumption began to re-emerge in 2008 by Lawrence Lessig [4]. Collective consumption was defined as an economic activity in which products can be used through sharing [6,7]. To elaborate those differences further, it can be encapsulated by social, environmental, and technological factors [8–10]. First, environmental problems such as the waste of energy resources resulting from over-consumption and the exhaustion of resources coupled with increased carbon dioxide emissions have been continuously amplified [6,9]. Second, the development of information and communications technology (ICT) enabled the increased use of online social media and the corresponding growth of platforms [11,12]. In collective consumption, transactions are generated through connections with people on networks. While the industrial economy has a high entry barrier because of ownership-based competition, collective consumption has a low entry barrier because it enables cooperative consumption and production through sharing. In the industrial economy, resource waste and environmental destruction occur from mass production and mass consumption. However, in collective consumption, reuse of existing products can protect the environment and minimize the waste of resources. In addition, while assets owned by individuals serve as a measure of credit in the industrial economy, reputation can build up trust-based credit in collective consumption. Lastly, an increase in gross domestic product is an important measure of national wealth in the industrial economy, whereas contributing to social welfare is the ultimate goal of collective consumption [1].

In collective consumption’s P2P market domain, the transaction method between individuals is typically done on an O2O platform. As a result, the scope of the new sharing market is expanding beyond the domain of tangible products to embrace space, personal
knowledge, and talents. Lessig [7] used Wikipedia as an example of collective consumption and explained that internet users can share personal knowledge and information with others, allowing new value creation. Collective consumption is understood as a new type of platform based on social media and wireless networks. For this reason, it was defined as a business model that provides services or products through webs and networks at the right time to people who need them without having to own them [12].

To examine the factors that influence the intention to use the online collective consumption platform, Jeon [13] analyzed the economic, social, and information values of the collective consumption platform and the intention to use the platform from Airbnb users. In addition to this relationship, the same study analyzed the moderating effect of price sensitivity among these variables. Since the modern consumers’ perceived roles as responsible or ethical consumers is expanding both economically and socially [14], it is highly likely that the consumers’ role attitude will have a positive effect on the intention to use collective consumption. At this juncture, it should be noted that socially or ethically responsible consumers are not necessarily collective consumption users since the collective consumption implies behavioral manifestation of their ethical or social values. In contrast, ethically or socially responsible consumption does not solely cause people to engage in collective consumption driven by economic motivation to realize monetary benefits from sharing products.

Therefore, this study intends to expand the scope of the existing research on collective consumption by looking into consumers’ ethical and consumption values as predictors for the intention to use collective consumption. Based on previous definitions introduced earlier, this study viewed the collective consumption intention as “the degree in which people are willing to participate in collectivistic activities where they share redundant resources (products or services) with other who need them”. The operational definition of collective consumption consists of three questions: (1) I am interested in sharing redundant resources with others? (2) Have I the intention to share redundant resources with others? (3) Will I share redundant resources with others in the future?

2.2. Collective Consumption and Open Innovations

As reported by many previous studies, collective consumption differs from the traditional consumption paradigm based on ownership of goods. This big shift in the thoughts and beliefs of consumers is primarily driven by innovations that occur internally or externally to organizations that need to fulfil sustainability responsibilities in the economic, environmental, and social spheres [15]. This mega shift in conventional corporate practices also applies to the companies operating collective consumption platforms, where they must transform the new knowledge of sustainable innovations (i.e., operational efficiency or increased customer turn-over rate) to convert them into a competitive edge. Previous studies have shown that for company-initiated innovations to be successful, it takes a great amount of effort to create and convey trust to the current customers about new innovations [15–20].

Previous research has consistently shown that a sustainable open innovation contributes to a company’s business performance in the social, economic, and environmental aspects of many different types of firms [15,18,21,22]. For instance, sustainability-oriented open innovation was found subject to organizational factors such as organizational culture [15], whereas the knowledge factor was found to contribute to sustainability-oriented open innovation [18]. Based on the above review of literature on open innovations in sustainability-oriented businesses, it seems clear that further research needs to be done to investigate a greater diversity of factors that contribute to open innovations in sustainability-oriented industry that encompasses not only organizational factors, but also consumer-oriented factors. This new focus on the consumer side will make a greater impact on turning external environmental changes (e.g., new consumption trends) into sources of opportunity for internal innovation.
2.3. Social and Ethical Values

This study relied on the theoretical foundation previously established on the relationship between consumption values and consumers’ behavioral intentions. Many earlier scholars asserted that values strongly affect consumers’ choice of purchase behavior because they dictate cognitive evaluations and feelings, which creates preferences for the products or certain consumption behaviors [23–25]. Based on the theoretical background, the study adopted theoretical premises associated with consumption values that influence consumers’ behavioral choices about collective consumption behavior.

Value has been considered by many scholars as a multi-dimensional construct because it denotes a comprehensive evaluation of all factors that affect individual experiences and characteristics. For instance, Sheth et al. [26] classified consumption value into five dimensions, i.e., functional value, social value, emotional value, situational value, and exploratory value. On the other hand, Holbrook [27] classified consumption value into four dimensions: economic value, social value, hedonic value, and altruistic value. However, it is not easy to find previous studies that included ethical value as one of the value dimensions, although its significance is fast increasing in view of the consumers’ growing interest in ethical corporate practices from a value co-creation perspective.

Ethical value was defined as the beliefs of consumers who make purchase decisions based on ethical standards and may be regarded as a basis of voluntary actions reflecting individual beliefs and values [28]. Furthermore, Kim [3] found that consumers’ perceptions of the sharing economy have a significant effect on travelers’ intentions to use accommodation-sharing services through mobilization of social and ethical consumption values.

Drawing from the above review of literature, this study adopted social and ethical values as antecedents of consumers’ collective consumption behaviors.

2.3.1. Social Value

It has been previously known that value is an abstract belief that is a fundamental driver of human judgment and thus occupies the center of an individual’s belief system [29]. The perceived value has been conceived either as a single-dimensional or a multi-dimensional construct, and, in general, a multidimensional concept is used because it provides a comprehensive evaluation of many factors affecting an individual’s experience and characteristics [25]. Social value signifies “an orientation of community’s benefits and interests”, and it can be viewed as a concept that combines “social” and “value”, which projects an individual’s subjective preferences into an object. In addition, social values imply reciprocity and solidarity based on group relations rather than individuals because they are primarily intended for others and communities beyond personal interests. Social values are externally motivated and directed toward others [23]. Kim [3] argues that social values are aimed at the benefits and interests of the community. A few other studies attempted to apply the effects of social values on collective consumption. For instance, the greater a person is oriented toward the social value, the more he perceives the intention to share knowledge through Wikipedia [24]. Jeon et al. [30] also argued that the higher the consumer’s perceived economic and social value, the higher the intention to use the collective consumption of cars. Another study classified it into social and ethical consumption and argued that these two values differently affect the intention to use collective consumption. That is, the collective consumption intention was found be more susceptible to personal ethical value than social ethical value [31]. Based on the above-discussed previous study results that proved the relationship between consumption values and collective consumption intention, this study adopted social value and ethical value as two major predictors of collective consumption intentions.

2.3.2. Ethical Value

Crane and Matten [28] contended that purchase decisions are made consciously or intentionally based on an individual’s moral beliefs and values. Ethical value is a moral standard used when purchasing and using a product or service in everyday life, and, when
activated, it dictates personal moral beliefs in many decision-making situations involving health, society, and natural environment issues [32]. It has also been previously reported that using collective consumption is strongly associated with ethical consumption motives because such behavior demonstrates a win–win orientation and value orientation based on collectivity among community members [33–35]. Previous research on ethical consumption showed that ethical value significantly influences purchase intention, and that it is deeply rooted in social, emotional, and symbolic values [36]. Another study classified it into social and personal ethical consumption and argues that these two values differently affect the intention to use collective consumption. That is, the collective consumption intention was found to be more susceptible to personal ethical value than social ethical value [3]. The present study focuses on personal ethical value to investigate whether consumers’ personal ethical values have an impact on the intention to use collective consumption.

2.4. Perceived Trust

Previous literature on trust viewed trust as a pivotal resource element that enhances social capital through enhanced social relationships [37,38]. Trust is also important for social exchange relationships because it reduces uncertainty and facilitates users’ behavior by increasing the norms of reciprocity among the exchange partners. According to Blau [39], reciprocity implies “actions out of mutual trust that are contingent on rewarding reactions from other, which increases the level of social capital”.

Trust is defined as “a willingness to rely on an exchange partner that you can believe in” [40] and is becoming critically important in online business environments. In particular, trust is a very important factor in a collective consumption environment because transactions between individuals are made on mutual trust, which is reciprocal in nature. Previous research on trust showed that the perceived image of the seller and the perceived quality of the site are the most important predecessors of trust in the web environment. The trust factor influences the degree to which a consumer wants to trust a product or a service on the web [41]. It was argued that trust could promote cooperative behavior, form a network, and reduce transaction costs caused by conflicts [42]. In addition, it has been reported that the trust of online sellers has a positive effect on users’ intentions to purchase, and the higher the trust in smartphone banking, the higher the intention to purchase [43–45]. Thus, the value of collective consumption may be based on trust and solidarity within the economy in its community rather than on rational consumption as in the ownership economy [7,46]. Moreover, since trust in collective consumption is a result of what individuals have acquired over a long time, it is influenced by past experiences and interactions with ethical products [29]. Thus, it is quite evident, based on the literature reviewed, that trust of collective consumption will lead to an individual’s intention to use collective consumption.

2.5. Research Hypotheses
2.5.1. Social Value and Trust

In a study of relationship benefits, Chung and Joo [47] reported that psychological benefit, special treatment benefit, and social benefit all positively affect one’s trust. In addition, Park et al. [48] classified perceived values into social value, informational value, monetary value, emotional value, and functional value and argued that they have a significant effect on one’s trust. Through prior studies, it is possible to predict that perceived social value would have a positive impact on trust toward something or someone and, thus, would establish sustainability mindedness, which culminates in global financial crisis as a collective solution to resolve the social problems facing humanity (energy depletion and environmental crisis). To link social and ethical values with collective consumption behavior, this study drew on a previously established theoretical relationship between consumption values and consumers’ behavioral intentions. Many previous studies confirmed that values strongly affect consumers’ choice of purchase behavior because they dictate cognitive evaluations and feelings, which creates preferences for certain consumption
behaviors [23–25]. To concretize this notion, it is arguable that people who hold strong social or ethical values toward humanitarian causes such as conserving environmental resources would be more predisposed toward collective consumption behaviors because they help achieve the environmentally sustainable goals by reducing unneeded energy consumption. Based on this rationale, this study proposes the following hypothesis.

H1. The social value of consumers has a positive effect on perceived trust in collective consumption.

2.5.2. Ethical Value and Trust

While trust in certain products is defined as consumer belief in an object in a purchasing decision, trust in a sharing service is different in that ethical values will play a certain role. Since trust in something ethical reflects on moral judgment that has accumulated for a long time, the trust is dependent on past experiences and interactions with ethical products [49]. Since the basic principle of collective consumption is based on trust and solidarity within the community rather than on rational consumption, as in the ownership economy [7,46], the sharing consumption behavior is attributable to human ethics and rationality [50,51]. A study on the structural relationship between collective consumption values, ethical values, and the intention to use the collective consumption of accommodations confirmed that trust in collective consumption has a significant relationship with personal ethical values [3]. Drawing on previous studies reviewed so far, it is hypothesizable that ethical values will have a positive impact on trust toward collective consumption. Therefore, the present study proposed the following hypothesis.

H2. The ethical value of consumers has will have a positive effect on perceived trust in collective consumption.

2.5.3. Trust and Intention to Use

Trust allows one to voluntarily rely on expectations or beliefs about other objects and implies a willingness not to deceive others. It has been confirmed that the convenience and ease of use of services in online transactions are important factors toward the continuous use of the online web site as they can increase consumer’s trust of the service and lower the perceived risk [52]. In the case of collective consumption, accumulated trust perception can increase purchase intentions through positive interactions with consumers [53]. Since collective consumption mainly consists of transactions between individuals, the uncertainty is high compared to the conventional B2C model. In addition to this, it has been reported that trust is formed by the perception of the website’s accuracy, ability, and willingness to provide expected services [54]. Similarly, Park [42] analyzed the relationships between perceived risk, value, trust, and intention to use collective consumption, and reported that trust in the sharing service had a positive effect on the intention to use. Trust is an important factor that positively and indirectly influences purchase intention, and it establishes a trust relationship between the service provider and the consumer, thus increasing the perceived value and the purchase intention. To sum up the previous literature reviewed so far, it is possible to establish a rationale for the relationship between trust in the collective consumption and intention to use. Therefore, the following hypothesis is proposed.

H3. The trust of collective consumption has will have a positive effect on the intention to use collective consumption.

2.5.4. Moderating Effect of Perceived Risk

Unlike traditional offline transactions, consumers who use online shopping platforms perceive the risk of leakage of credit card information and personal information. In addition to economic risks, social risks, and functional risks that are normally perceived in the traditional offline transactions, personal risk and privacy risk are added in online transactions [55]. As transactions are generally conducted online between individuals in collective consumption, it is inevitable to have a sense of uncertainty that is due to the lack of information about the trading partners. This lack of information or lack of certainty
about the transactions not only causes perceived risk but also reduces the extent to which one transaction partner views the other partner to be trustworthy. In other words, no matter how one views a transaction involving collective consumption to be trustworthy, if the partner perceives a certain sense of risk because of a lack of relevant information, it is going to have a negative impact on the partner’s intention to do collective consumption if it is regarded as unsafe or risky. This explanation brings home the reality facing collective consumption platforms such as Airbnb or Uber where consumers need to be assured of the safety or security of doing transactions with a service provider with whom one has no previous experience. To paraphrase, no matter how trustworthy a collective consumption platform is perceived to be, if one feels more or less risk about the transaction, it will have either positive or negative impacts on one’s intention to use the platform depending on the nature of the perceived risk. This tenet on the role of risk as a controlling factor in the relations between trust level and consumption behavior is given support by previous studies. For instance, Bauer [56] argued that consumers are likely to perceive the risk of uncertainty if they cannot reliably predict the outcome of the decision-making, which constrains their consumption behavior. In addition, Jarvenpaa and Todd [55] maintained that online shoppers who perceive a higher level of risk involving online transactions are more likely to have trust in online purchase behavior than those with lower risk.

Based on the previous studies reviewed so far, it is probable that perceived risk would have a negative impact on using collective consumption. Therefore, it is proposed that the relationship between trust and the intention to use collective consumption will differ by the level of perceived risk of collective consumption. Hence, the following hypothesis was proposed.

**H4.** The impact of trust on the intention to use collective consumption differs by the perceived risk of collective consumption.

3. Research Methods
3.1. Research Model

To perform empirical analysis, the current study set a model based on the theoretical discussions presented above (see Figure 1), and the purpose of the study was to draw the implications of the relationships between consumers’ perceived social values, ethical values, trust toward collective consumption, and intention to use. To further elaborate on the research model, this study adopted social value and ethical value as independent variables to verify their impact on collective consumption behavior. Furthermore, the model of this study was set up to determine the degree to which the perceived risk of collective consumption has a moderating effect between the trust and the intention to use collective consumption.

![Research Model](image)

**Figure 1.** Research Model.

3.2. Survey Design and Operational Definition of Measurement Variables

In view of the study’s purpose and theoretical properties, the questions used in the survey questionnaire were constructed by modifying the scale items verified in various previous studies. As shown in Table 1, the questionnaire was first reviewed by three graduate students for semantic abnormalities and readability. All of the measures were based on a 7-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither disagree nor agree, 5 = somewhat agree, 6 = agree, and 7 = strongly agree).
survey was targeted at university students since they were assumed to have a relatively high interest and intention to use sharing services. To ensure that the selected students were aware of the definition of collective consumption, researcher offered a short definition of collective consumption at the outset of the questionnaire. Following this statement, the researchers asked the respondents whether they previously experienced collective consumption with a view to selecting those who did have a prior experience. With this rationale, the study administered the survey on the students attending a university located in a metropolitan city of South Korea. The questionnaires were distributed in class to students taking undergraduate/graduate courses in marketing after gaining permission from the class instructors and students.

Table 1. Source of major constructs used in the study.

| Variable Name       | Item | Source                                           |
|---------------------|------|--------------------------------------------------|
| Social value        | 3    | Sheth et al. (1991), Sweeney and Soutar (2001)   |
| Ethical value       | 3    | Hee-seok Park et al. (2018)                      |
| Trust               | 4    | Jarvenpaa et al. (1999)                          |
| Intention to use    | 3    | So-young Kim (2019)                              |
| Perceived risk      | 4    | Jung-hwan Yoon (2018)                            |
| Demographic...      | 7    | Gender, marital status, age group, final education, occupation, average monthly income, household type |

Among the 280 questionnaires that were distributed, 258 were collected (response rate 92.1%), and, after excluding non-response and unfaithful questionnaires, a total of 246 pieces of data were used for analysis.

The number of samples required to achieve the purpose of this study was calculated using the G*power program 3.1.9.7 developed by Erdfelder et al. As the result of calculating an effect size of 0.15, a significance level of 0.05, a power of 0.90, and five predictors with reference to previous studies, the minimum sample size required was 138. Thus, we concluded that our study was based on a sufficient sample size.

The IBM SPSS Statistics 22 program was used for data cleaning and hypotheses verification. All measured items were drawn and modified from the related studies to suit the purpose of the current study. The social value was defined as “the degree of perception of the social status that an individual can obtain through the collective consumption”, and it consisted of three items. (1) I think using collective consumption fits my usual image. (2) I think collective consumption will make a good impression on my friends and colleagues. (3) I think collective consumption will help me feel different from my friends and colleagues.

Ethical value was defined as “the value activated while purchasing and using products according to an individual’s ethical beliefs”, and it consisted of three items. (1) Practicing collective consumption can have a positive impact on society. (2) I can lead the ethical consumption of others by practicing collective consumption. (3) I can contribute to solving problems caused by materialism or overconsumption by practicing collective consumption. Trust was defined as “the degree of user confidence or belief in collective consumption”, and it consisted of four items. (1) I trust the quality of collective consumption. (2) The fee for collective consumption is reliable. (3) I think the various information provided when using collective consumption is reliable. (4) I think personal and transaction information will be safely stored after using collective consumption. Intention to use was defined as “the degree of influencing intended future behavior to use collective consumption”, and it consisted of three questions. (1) Am I interested in collective consumption? (2) Have I an intention to use collective consumption? (3) Will I use collective consumption in the future?

Perceived risk was defined as “the degree of uncertainty that may arise from the use of collective consumption and the perceived loss thereof”, and it consisted of four items. (1) I am concerned about personal information leakage caused by collective consumption. (2) I think the quality service of collective consumption is insufficient. (3) I am concerned
that the quality of collective consumption will be lower than expected. (4) I think there will be a difference between the cost proposed by collective consumption and the actual cost incurred. The demographic questions were composed of seven questions that were measured on a nominal scale: gender, marital status, age group, education level, occupation, average monthly income, and household type.

4. Empirical Analyses

4.1. Demographic Characteristics of the Sample

The following is the result of frequency analyses to identify the demographic characteristics of 246 participants: 125 men (50.8%) and 121 women (49.2%) participated, and the age range was composed of 1 (0.4%) under 20, 231 (93.9%) in their 20s, 1 (0.4%) in their 30s, and 13 (5.3%) in their 40s. The occupations included 232 students (94.3%) and 14 manager/office workers (5.7%). The level of education included 4 high school graduates (1.6%), 232 college students (94.3%), 5 college graduates (2%), and 5 from graduate school or higher (2%). Fifteen participants were married (6.1%) and 232 were unmarried (93.9%). Average monthly income ranged from less than KRW 1 million (192 participants, 78.0%), KRW 1—2 million (38 participants, 15.4%), KRW 2—3 million (10 participants, 4.1%), and KRW 3–4 million (4 participants, 1.6%) to KRW 4–5 million (2 participants, 0.8%). The household types included 7 single-person households (29.7%), 4 households for married couples (1.6%), 155 households for married couples and children (63%), and 14 households with over three generations (5.7%).

4.2. Reliability and Validity Analysis

Table 2 below shows the result of an exploratory factor analysis on the constructs. Since the KMO value was 0.78, the selection of variables was deemed appropriate [57]. The total cumulative variance explained was also acceptable at 75.51. The commonality of the variables representing the ratio explained by the extracted factors was higher than 0.5. Since the factor-loading value of the exploratory factor analysis on the variable items was higher than ±0.50, the extracted factors were deemed to secure the construct’s validity [58]. In addition, Cronbach’s α for each extracted factor was 0.60 or higher, showing that the data are reliable and internally consistent [59,60]. This study conducted factor analysis based on principal component analysis and used the Varimax rotation option. The cutoff criteria used were an eigenvalue greater than 1.00 and commonality values greater than 0.50 [61].

Next, we analyzed the correlation between the variables used in this study. As shown in Table 3, all coefficients but the ones for correlations between perceived risk and ethical value, as well as intention to use, showed a significant correlation at a 99% confidence level. Multicollinearity may exist if the range of the correlation coefficient is ±0.81 to ±1.0, but they are all below that level. The correlations between the variables were generally significant, and the perceived-risk variable showed a significant negative correlation with the social-value variable and the trust variable. This result demonstrates that the directionality and significance derived from the theory-based model confirmed the nomological validity.

4.3. Research Hypothesis Test

In this study, the causal and moderated relationships associated with the research model were verified using regression analysis. The results of the multiple regression analysis to verify the impact of consumer values on trust in collective consumption are shown in Table 4 below. The explanatory power of the regression model was 18%, and the regression equation was analyzed to be statistically significant (F = 27.20, p < 0.001). Social value, which is an independent variable (beta = 0.32, t value = 5.11, p < 0.001), was found to have a statistically significant positive effect (p < 0.05). The result shows that social value is an important factor in trust of collective consumption. Therefore, Hypothesis 1, “the social value of collective consumption will have a positive effect on trust in collective con-
sumption”, is confirmed. Ethical value, which is another independent variable (beta = 0.20, t value = 3.15, p < 0.001), was also found to have a statistically significant positive effect (p < 0.05). Accordingly, Hypothesis 2, “the ethical value of collective consumption will have a positive effect on trust in collective consumption”, was also confirmed.

Table 2. Factor analysis and reliability analysis results.

| Factor          | Loadings | Commonality |
|-----------------|----------|-------------|
|                 | Variable | 1  | 2  | 3  | 4  | 5   |     |
| Trust           | Tr3      | 0.86|    | -0.21| 0.12| 0.06| 0.11| 0.80|
|                 | Tr4      | 0.80|    | -0.27| 0.08| 0.10| 0.12| 0.74|
|                 | Tr2      | 0.79|    | -0.08| 0.30| 0.17| 0.04| 0.75|
|                 | Tr1      | 0.73|    | -0.20| 0.19| 0.14| 0.28| 0.72|
| Perceived risk  | PR3      | -0.25|    | 0.87| -0.01| 0.05| -0.07| 0.82|
|                 | PR2      | -0.24|    | 0.85| -0.06| 0.05| -0.07| 0.80|
|                 | PR1      | 0.05|    | 0.77| 0.18| 0.13| -0.01| 0.64|
|                 | PR4      | -0.28|    | 0.70| -0.01| 0.05| -0.09| 0.59|
| Intention to use| UI2      | 0.21|    | 0.07| 0.90| 0.13| 0.07| 0.89|
|                 | UI3      | 0.13|    | 0.17| 0.90| 0.15| 0.05| 0.89|
|                 | UI1      | 0.17|    | -0.12| 0.85| -0.02| 0.05| 0.76|
| Ethical value   | ECV3     | 0.01|    | 0.01| 0.10| 0.86| 0.07| 0.75|
|                 | ECV2     | 0.26|    | 0.04| -0.09| 0.85| 0.25| 0.86|
|                 | ECV1     | 0.13|    | 0.13| 0.25| 0.77| 0.11| 0.70|
| Social value    | SV2      | 0.13|    | -0.19| -0.05| 0.11| 0.85| 0.78|
|                 | SV3      | 0.13|    | 0.00| 0.07| 0.19| 0.84| 0.77|
|                 | SV1      | 0.17|    | -0.02| 0.45| 0.10| 0.59| 0.58|
| Eigenvalue      |          | 5.26|    | 3.20| 2.03| 1.30| 1.05|     |
| Var             |          | 30.93|   | 18.83| 11.91| 7.65| 6.19|     |
| Accumulated Var (%) | 30.93 | 49.76| 61.67| 69.32| 75.51|     |
| Cronbach’s Alpha|          | 0.88|    | 0.84| 0.91| 0.82| 0.73|     |
| KMO             |          | 0.78|    |     |     |     |     | 0.00|

Table 3. Correlation analysis result.

|              | Social Value | Ethical Value | Trust | Intention to Use | Perceived Risk |
|--------------|--------------|---------------|-------|-----------------|----------------|
| Social value | 1            |               |       |                 |                |
| Ethical value| 0.357 **     | 1             |       |                 |                |
| Trust        | 0.387 **     | 0.309 **      | 1     |                 |                |
| Intention to use | 0.259 ** | 0.226 ** | 0.383 ** | 1             |                |
| Perceived risk | -0.181 ** | 0.077 | -0.413 ** | 0.033 | 1             |

** The correlation is significant at the 0.01 level (both sides).

The following Table 5 shows the results of regression analysis to verify the effect of trust on the intention to use collective consumption. The explanatory power of the regression model was 15%, and the regression equation was analyzed to be statistically significant (F = 41.88, p < 0.001). The analysis shows that trust significantly influences the intention to use collective consumption (beta = 0.38; t = 6.47). Therefore, Hypothesis 3, “the trust of collective consumption will have a positive effect on the intention to use collective consumption”, was confirmed. This finding on the significance of trust on affecting the intention to use collective consumption is consistent with previous findings that argued that collective consumption is conceptually grounded on trust and the solidarity of the
community-based society, which differs from assumptions that support the principle of the ownership economy (Albinsson and Perera, 2012; Lessig, 2008).

Table 4. Regression analysis of impact on trust.

| Model      | Non-Standardization Factor | Standardization Factor | t   | p     | F     | R² |
|------------|----------------------------|------------------------|-----|-------|-------|----|
| (Constant) | 3.88                       | 0.06                   | 64.05 | 0.00  |       |    |
| Social value | 0.33                     | 0.06                   | 0.32  | 5.11  | 27.20 ** | 0.18 |
| Ethical value | 0.20                    | 0.06                   | 0.20  | 3.15  |       |    |

Dependent variable: trust

** p < 0.01 (two-tailed test).

Table 5. Regression analysis of impact of trust on intention to use.

| Model      | Non-Standardization Factor | Standardization Factor | t   | p     | F     | R² |
|------------|----------------------------|------------------------|-----|-------|-------|----|
| (Constant) | 5.22                       | 0.07                   | 78.30 | 0.00  | 41.88 *** | 0.15 |
| Trust      | 0.43                       | 0.07                   | 0.38  | 6.47  |       |    |

Dependent variable: intention to use

*** p < 0.001 (two-tailed test).

Next, a moderated regression analysis was conducted to determine whether the relationship between trust and the intention to use is moderated by perceived risk. Hierarchical moderated regression analysis was conducted by putting trust into model I as an independent variable, putting perceived risk into model II, and putting interaction variables between trust and perceived risk into model III, as shown in Table 6 below. The explanatory power of model I was 15%, and it was analyzed to be statistically significant (F = 41.88, p < 0.001). Trust, which is an independent variable (β = 0.383, p < 0.001), was found to have a statistically significant positive effect on intention to use. The explanatory power of model II with an addition of perceived risk was 18%, showing a 3% increase, and it was considered to be statistically significant (F = 28.64, p < 0.001). This means that the added perceived risk (β = 0.231, p < 0.001) is a statistically significant variable for intention to use. The interaction variables of trust and perceived risk were added in model III to verify the moderating effect of perceived risk, and its explanatory power increased by 4% to 22% and showed statistical significance (F = 22.54, p <0.001). The interaction variable that is added (β = −0.189, p < 0.05) was shown to be statistically significant, which suggests the perceived risk can be considered to moderate the relationship between trust and intention to use. Therefore, Hypothesis 4, “the impact of trust on the intention to use collective consumption will differ by the perceived risk of collective consumption”, was confirmed. The results of model III show that the interaction term is significant as a negative effect, but not the perceived risk. Thus, it can be seen that the perceived risk has a net negative moderating effect. In other words, even if consumers trust sharing economic services, the intention to use decreases as the perceived risk increases.
Table 6. Moderated regression analysis on perceived risk.

| Variable                        | Model I         |          |          | Model II        |          |          | Model III       |          |          |
|---------------------------------|-----------------|----------|----------|-----------------|----------|----------|-----------------|----------|----------|
|                                 | β    | t     | p       | β    | t     | p       | β    | t     | p       |
| Trust (A)                       | 0.383| 6.471 | 0.000   | 0.478| 7.546 | 0.000   | 0.510| 8.052| 0.000   |
| Perceived risk (M)              | 0.231| 3.647 | 0.000   | 0.160| 2.381 | 0.018   |      |      |        |
| (A) × (M)                       | -0.189| -2.926| 0.004   |      |      |        |      |      |        |
| F-value                         | 41.88***        | 28.64*** |        | 22.54***        |        |        |
| R² value                        | 0.15          | 0.18    | 0.22    |      |      |        |      |      |        |
| Change of R² value              | 0.146***       | 0.191*** |        | 0.209**        |        |        |

Dependent variable: intention to use

*** p < 0.001, ** p < 0.01 (two-tailed test).

5. Conclusions

5.1. Summary and Explanations of the Result

This study attempted to empirically identify the causal relationship between perceived social value, perceived ethical value, trust, and intention to use collective consumption based on internet business. Drawing from the previous literature, we adopted the measurement variables of perceived social value, ethical value, trust, and intention to use, and our research model was tested through empirical analyses.

A summary of the study results is presented as follows. First, Hypotheses 1 and 2 were accepted, showing that social value (beta = 0.32; t = 5.11; p = 0.00) and ethical value (beta = 0.20; t = 3.15; p = 0.00) have a positive effect on trust. Second, Hypothesis 3 was accepted, showing that trust of collective consumption has a positive effect on intention to use (beta = 0.38; t = 6.47; p = 0.00). Third, we proposed a hypothesis that perceived risk would moderate the impact of trust on intention to use collective consumption, and the result showed that the higher the perceived risk, the lower the impact of trust on intention to use. The result showed that the moderating effect was statistically significant (beta = -0.189; t = -2.926; p = 0.004); thus, hypothesis 3 was accepted. The result, to a large extent, suggests that people embrace the social and ethical aspects of collective consumption, which is drastically different from the one associated with the traditional industrial economy. The finding that social value had greater impact on collective consumption intent than ethical value demonstrates that consumers more closely identify with collective consumption as a social motivator that reflects public and collectivistic judgment and gives collective consumption a relatively lower level of ethical denotation, which is based on individual judgment. Collective consumption emphasizes social responsibility as a member of society. This finding on the significance of trust on affecting the intention to use collective consumption is consistent with previous findings that argued that the collective consumption is conceptually grounded on trust and the solidarity of the community-based society, which differs from assumptions that support the principle of the ownership economy [7,46]. Thus, the results support and extend the previous research that found significant influence of perceived value on trust [48,62]. Another important revelation of this study is that an individual’s behavior of shared consumption is not just socially motivated but is further triggered by an individual’s moral and ethical viewpoints. This particular result imparts a noteworthy theoretical implication as it extends the validity of applying an ethically motivated consumption value as a valid predictor of collective consumption behavior, which is in support of previous findings on ethical consumption studies [50,51].

5.2. Research Implications

The finding that trust significantly influences intention to use collective consumption is also empirically consistent with the previous research on trust as a powerful influencer of behavioral decisions [63]. In this study, trust was reaffirmed as an important variable that
affects the intention to use collective consumption that occurs mainly through platforms. A natural but highly worthy extension of this would be to expand the trust construct to include more specific areas of collective consumption, such that it can capture specific operational traits associated with each collective consumption (i.e., car, accommodation, knowledge, etc.). Another study finding that offers new theoretical insights is that perceived risk can moderate the impact of trust on the intention to use collective consumption, and the result showed that the higher the perceived risk, the lower the impact of trust on intention to use. This result expands the previous literature findings since the previous literature mostly reported that trust is an important factor that positively and indirectly influences purchase intention and the relationship between the service provider and the consumer [43, 54]. However, it is difficult to find the previous result showing that the perceived risk moderates the relationships between perceived trust and intention to use collective consumption.

The following are the specific practical/managerial implications derived from the study findings. Since trust was found to influence collective consumption, service providers need to disseminate reliable information to consumers. This way, a trust-building communication strategy will strengthen the provider–consumer’s mutual relationship, which is expected to retain current customers and ensure future loyalty. For this purpose, an interactive marketing communication based on various social network channels such as social media may be implemented. In addition, in view of the verified impact of social value and ethical value, the service providers need to emphasize the importance of adhering to basic social and ethical values in making consumption decisions in their communication messages. Moreover, the impact of perceived risk verified in this study suggests the importance of understanding specific causes of perceived risks and coming up with effective solutions to reduce consumers’ uncertainty about collective consumption. One way to reduce uncertainty would be to use the WOM strategy where consumers who experience collective consumption are encouraged and provided an appropriate forum to share their collective consumption experiences. Service providers can carry out this WOM strategy using SNS platforms such as Instagram, Facebook, YouTube, etc.

Finally, collective consumption providers need to segment their market based on consumption values so that they can promote the consumers’ awareness of the socially responsible values with a focus on social value and ethical value. To develop a segmentation strategy, the providers should be able to discover the basic purchase motives and the underlying value systems that primarily dictate their customers’ behavioral preferences and service choices. One way to discover these latent values and motives of collective consumption is for the collective consumption providers to conduct qualitative research to extract the deep meanings or symbolic interpretations that their current customers assign to collective consumption behavior.

5.3. Practical Implications

The study results further provide some meaningful managerial implications regarding open innovation at the organizational level. As collective consumption, by definition, implies one aspect of sustainable consumption that is divergent from traditional ownership-based consumption, this big shift requires the platform companies to be alert to sustainability-oriented innovations that occur externally to meet organizational needs in the economic, environmental, and social dimensions [15]. The study results indicate that the collective consumption platform companies should be able to understand how they can transform the knowledge obtained from sustainability-oriented innovations (i.e., platform operational efficiency) and turn it into a core competitive advantage of the company. The study results also demonstrate that to achieve a sustainable corporate goal, it is critical for platform firms to raise the perceived trust of the users so that they can retain the current customers.

Previous literature on open innovation shows that there exists a meaningful relationship between sustainability-oriented open innovation and organizational performance in
social, economic, and environmental dimensions of small–medium enterprises [21]. A few of the previous studies found the factors that contribute to sustainability-oriented open innovation. For instance, Behnam et al. [15] argued that organizational relationship factors strengthen sustainability-oriented open innovation, whereas Lopes et al. [18] asserted that the knowledge factors contribute to sustainability-oriented open innovation.

5.4. Limitations

The current study is not without some limitations. First, the two factors (i.e., social value and ethical value) may not fully account for trust in collective consumption. Therefore, future studies should include more variables that potentially affect collective consumption in the model. It is possible to include some features associated with the platform applications (i.e., ease of use, reliability, etc.). Second, it is deemed necessary to apply the current research model on individual sub-categories of collective consumption separately. Third, it will be interesting for future studies to investigate the role of trust as a mediator between social/ethical values and collective consumption behavior. Furthermore, the relationship between consumption values and collective behavior may strengthen the role of trust as a mediator variable. Finally, as this study confined sampling population to university students, it is potentially limiting the generalizability of the research findings. Therefore, future research needs to include a broader range of the demographic profile to ensure sample representativeness.

Author Contributions: Conceptualization, S.J.Y.; methodology, Y.J.P.; formal analysis, Y.J.P.; data curation, Y.J.P.; writing—original draft preparation, S.J.Y.; writing—review and editing, Y.J.P.; visualization, Y.J.P.; supervision, S.J.Y.; project administration, Y.J.P. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted in accordance with the Ethics Committee of Kyonggi University. This committee waived this study of the review requirement because the data for the study was obtained through an online survey method not requiring face-to-face interactions.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Not Applicable.

Conflicts of Interest: The authors declare no conflict of interest.

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