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Article

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Article

Selection Attributes of Innovative Digital Platform-Based Subscription Services: A Case of South Korea

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Abstract: This study aimed to make an empirical analysis of the effects that the selection attributes of subscription services have on purchase intentions and continuous use intentions, based on the perceived value of digital platform-based subscription service users as a medium. A survey was conducted among 434 subscription service users in Korea, with content superiority, system quality, and service differentiation defined as key selection attributes based on a literature review. Upon analysis, content superiority and service differentiation were found to have a positive effect on perceived value, which in turn positively affected purchase intentions and continuous use intentions, which is why the hypothesis was consequently adopted. Service differentiation was also found to positively affect purchase intentions and continuous use intentions using perceived value as a medium. In contrast, system quality was found to have no effect on perceived value, nor did it affect purchase intentions or continuous use intentions using perceived value as a medium, which is why the hypothesis was rejected. In conclusion, among factors impacting decision-making or buying behavior among users of recent digital platform-based subscription services, new, unique, and meaningful content superiority was found to have a bigger impact compared to system-related aspects based on technology usability.

Keywords: selection attributes; subscription service; digital platform; content superiority; system quality; service differentiation

1. Introduction

Today's increase in mobile and online shopping and the spread of billing schemes such as monthly flat-rate plans have led to an expansion in the subscription services business [1]. A subscription service is a type of consumption where an individual purchases the right to use goods or services for a certain time period [2]. While the subscription service itself is an old existing service model, today's rapidly changing digital environment has led to the emergence of new business models that are linked to a variety of different types of subscription services [3]. Moreover, as customer management based on big data drives a continuous and direct shift in customer relationship management, many diverse digital business models have emerged reflecting this ongoing change. Subscription services themselves are also changing from the subscription model of the past, which was centered on product delivery, to a new type of service that leverages the digital environment—offering recommendations based on customer's historical purchase data, suggesting regular delivery intervals based on usage status, offering unlimited use of contents, etc. [4].

The McKinsey Report [5] projected that consumer goods subscriptions in the U.S. market would account for 15% of e-commerce shopping in 2016, and that globally, there would be around 28,000 companies providing subscription-type services as of 2017. Indeed, subscription-based

businesses have been growing on a quantitative basis. The emergence of Netflix providing unlimited video streaming services in the 2000s shed new light on the subscription-based business model as the number of Netflix subscribers globally increased from 2.61 million in 2004 to more than 180 million as of the first quarter of 2020 [6]. The subscription business model started to draw attention in the retail space when Unilever acquired Dollar Shave Club, a subscription-based shaving kit delivery service provider for USD 1 billion in 2016 [7]. More and more categories of products such as cosmetics, dress shirts, razors, underwear, flowers, etc. have since been added on, as subscription services evolved into different types of subscription models: notably, predefined, curated and surprise [8].

Growth in subscription services is not limited to online contents. Subscription services are now defined as a new business model in their own right, rather than simply another approach to the sale of service products. Consequently, startups adopting a subscription-based business model have been on the rise across diverse industries. Manufacturers are also increasing their use of subscription service models to reinforce their digital platform services, while maintaining product competitiveness based on flat-rate market pricing [9].

Recently, as online shopping and smartphone usage becomes more universal, shopping behavior has been shifting away from buying to regular subscriptions driven by customized services that are based on intelligent digital platforms. Apple began to reinforce its lineup of subscription services including music, TV, Podcasts, etc., while Microsoft and Adobe converted their entire contents services into a subscription model, increasing their share of subscription sales significantly [10,11]. Advances in big data and AI technologies, in particular, have made it possible to offer recommendations to subscribers based on an analysis of their behavior when using certain goods and services, while also providing information-based services to consumers that reflect their needs as identified through data analysis, which has been a key driver behind the spread of subscription services versus simple purchases [12]. Consequently, the business–customer relationship is also shifting from a relationship simply based on the transaction itself into a relationship of ongoing mutual engagement, where trust and continuity are emphasized. As such, the study of consumption and purchasing behavior in subscription services represents an important issue for research purposes.

Previous research on subscription services mainly considered two aspects: first, consumer subscriptions were discussed from a financial and investment-related perspective because they were a source of stable income for companies [13,14]. Meanwhile, some researchers studied the value of subscription services from a marketing perspective, where the goal was to secure loyal customers with whom long-term relationships could be established [15,16]. However, in today's subscription service market, emphasis is now being placed on the creation of new business models and new markets, going beyond the earlier focus on sales policies directed at consumers. Not many studies exist to date, however, that look into consumer behaviors with respect to the new types of emergent subscription services that are based on digital contents and platforms.

This study aims to determine how the selection attributes of digital platform-based subscription services affect customers' purchase intentions and continuous use intentions through empirical analysis. In particular, an attempt was made to identify selection attributes affecting the perceived values of consumers in a transactional scenario of accessing subscription services—based on existing research on internet and mobile shopping, etc.—followed by an analysis of the ultimate effects these values have on consumers' purchase intentions and continuous use intentions. The results of this study are expected to have specific implications for companies in reinforcing their subscription services and developing strategies to establish their own subscription service business models.

2. Theoretical Background and Hypothesis Development

2.1. Subscription and Selection Attributes

Selection is an act of choosing the most ideal solution of the issue among several alternatives which are intended to resolve an issue [17]. An attribute can be defined as a characteristic essential to a particular object or an inherent characteristic of a particular object [18]. In other words, a selection attribute is an attribute of a particular product or service that is directly relevant to a consumer's behavior—i.e., buying behavior, decision-making, repurchase intentions—which can ultimately have a positive impact on consumer behavior [19]. It has to do with how consumer attitudes are formed toward a particular attribute of a product or service that makes the difference between consumer preferences versus what they actually buy and also has to do with how certain attributes of a product or service are distinguishable from others. Bischof et al. [20] suggested that sales should be promoted by improving upon existing products while developing new products that fulfill consumer needs by taking into account the selection attributes of their respective target consumer groups.

Existing studies that looked at the selection intentions of subscription service users discussed individual customer characteristics [21,22], types of products delivered through subscription service [23], as well as service type—i.e., personalized, unlimited access, subscription box, etc. [8,24]. There was particular emphasis placed on the argument that the role of the intermediary was important for existing forms of regular subscription services—i.e., delivery of newspapers, magazines, dairy food products, etc.—depending on what type of direct transaction took place between the producer and consumer [25].

However, unlike regular subscription models of the past, the technological characteristics of contents and online now serve as important selection attributes in today's digital platform-based subscription services [26,27]. As a primary example, Rudolph et al. [28] classified product subscription models into pre-defined, curated, and surprise subscriptions according to the pre-notification status of consumers and contended that they were differentiated in terms of convenience, individually personalized services, and inspiration, respectively. Chung [22] noted that motivation for use had the strongest impact on consumer attitudes toward online shopping subscription services. Tao and Xu [29] suggested that factors such as knowledge, cognition, and acceptance by consumers served as selection attributes in their adoption intention toward fashion subscription retailing based on the innovation acceptance model.

In particular, Horng [30] suggested that system and service differentiation, the importance of contents, quality superiority, ease of use, and price quality were factors influencing consumers to pay for online contents subscription services. The relative advantages of subscription services as perceived by consumers in real life included saving time, convenience and ease of use, price quality, personalized services such as styling, elements of fun and surprise, expectations of a new style, etc., which are different selection attributes versus regular subscription services for general products. Consequently, this study chose content superiority, system quality, and service differentiation as the three key selection attributes for products or services delivered to consumers as a form of digital platform-based subscriptions services.

With digital platform-based subscription services, consumers often receive subscription box retail services (SBRS), which is an assortment of diverse contents or product categories that one can choose directly, rather than being a one-sided subscription to generally selected merchandise, which is why from this perspective, the superiority of new and diverse content should be taken into consideration for experiential consumption [23]. Accordingly, one of the important selection attributes of subscription services may be hedonic motivations such as the uniqueness, novelty, and surprise of the subscribed merchandise or contents, which can then convince users to subscribe [15,22]. As Morris and Powers [31] contended, features such as discriminative function and the quality (curated mechanism) of the subscription service contents can also serve as selection factors.

In addition, subscription services that are based on online and mobile digital platforms ultimately reflect the characteristics of new technology acceptance and factors such as usability, convenience, and

utility may affect the selection attributes [32]. Chen and Fu [33] used the stimulus–organism–response (S-O-R) paradigm to suggest that whether or not the user feels that shopping takes less time or that the shopping process is convenient is an important factor and that the more innovative the consumers are, the more proactive they were in accepting subscription services. Lastly, the differentiating elements of the subscription service can also serve as important selection attributes [34]. Marion and Mimoun [24] indicated that providing curated information and goods was key to e-commerce subscription services. Digital platform-based subscription services can provide customized services to users based on big data analysis, and also offer product recommendations for online content subscriptions by analyzing consumers' usage data [35]. As users experience the convenience and usefulness of this kind of subscription mechanism as a differentiated service, they may recognize the distinct characteristics and value of subscription services, which are differentiated from other services, which may prompt selection by the consumer [36].

2.2. Selection Attributes and Perceived Value

Perceived value can be defined as the consumer's overall assessment of the utility of a product or service based on perceptions of what is received and what is given [37]. Sweeney and Soutar [38] defined perceived value as a multi-dimensional concept on which consumers' brand selection or purchase decisions are based, dividing them into emotional value, social value, performance/quality value, and price for money value. In previous studies on consumers' perceived value in online or mobile shopping, perceived value was defined as economic, social, and emotional values [39,40]. In particular, factors such as efficiency, excellence, play, aesthetics, status, esteem, ethics, and spiritual value were presented as the perceived value of subscription service users.

As already mentioned in many previous studies, perceived value is affected by leading variables such as product characteristics and selection attributes and may influence purchase intentions [41]. The perceived value of subscription service users is also affected by their service selection attributes [13,23,30]. How users perceive content superiority, system quality, or service differentiation and their satisfaction thereof may lead to their assessment of perceived value [42,43].

Hsu and Lin [44] made direct reference to their view that consumers' selection attributes and motivation for use may influence their perceived value of subscription services. Park et al. [45] explained that selection attributes such as product information, convenience, selectivity, delivery intervals, etc. may affect consumers' perceived value and perceived risk in subscription commerce. Based on this literature review, the hypothesis that the three selection attributes of content superiority, system quality, and service differentiation may affect consumers' perceived value toward subscription services was defined as follows.

Hypothesis 1 (H1). *Among the selection attributes of subscription services, content superiority positively affects consumers' perceived value.*

Hypothesis 2 (H2). *Among the selection attributes of subscription services, system quality positively affects consumers' perceived value.*

Hypothesis 3 (H3). *Among the selection attributes of subscription services, service differentiation positively affects consumers' perceived value.*

2.3. Perceived Value, Purchase Intentions, and Continuous Use Intentions

Intention is the will to engage in a future planned act to fulfill a personally set goal. It refers to the probability of a person's thoughts and attitude being put into action, while continuous use intention refers to a consumer's behavioral intent to consume a certain product or service again based on a memory (or experience) of past use [46]. Many studies have noted continuous use intention as the

result of a satisfying experience, often referring to a positive act following customer satisfaction or a satisfying purchase experience [47].

Hoess et al. [48] defined purchase intention as an individual’s tendency to purchase a particular product, or as their personal belief or willingness to form an attitude toward a certain object and express through a future act. They emphasized that the more positive a consumer’s attitude or thoughts were toward a product or brand, the more likely they were to have purchase intentions and actually make a purchase. Such a positive effect may also lead to continuous use intentions [49]. Continuous use intention refers to a high likelihood for consumers to continue purchasing the product in the future. It is strongly characterized by a behavioral disposition toward direct consumption behavior and is highly correlated with actual repurchase behavior [50].

In particular, Calvo-Porrall and Levy-Mangin [51] contended that purchase intentions in the online environment mostly occur in relation to service use and may later affect service experience satisfaction and continuous use intentions. Many different studies on consumption behavior within digital platforms have found perceived value to affect consumers’ buying behavior and continuous use intentions [44,52]. Likewise for subscription services, purchase intention occurs when the value perceived by users is positive; actual purchase experience or purchase satisfaction resulting from the purchase intention may affect the individual’s inclination to make recommendations or intentions to continue to use the subscription services or not [53].

Lee et al. [54] indicated that in mobile subscription commerce, consumers’ economic, social, and emotional values may have a positive effect on their attitude and behavior royalty. Hamari et al. [55] noted that users’ perceived value in subscribing to digital contents affected their use intentions. This study formulated the hypothesis that the value perceived by users of digital platform-based subscription services would positively affect their purchase intentions and continuous use intentions.

Hypothesis 4 (H4). *Subscription service users’ perceived value positively affects their purchase intentions.*

Hypothesis 5 (H5). *Subscription service users’ perceived value positively affects their continuous use intentions.*

Hypothesis 6 (H6). *Subscription service users’ purchase intentions positively affects their continuous use intentions.*

3. Research Methods

3.1. Research Model

Based on the hypotheses drawn per literature review, a conceptual model was built, as shown in Figure 1. The selection attributes affecting subscription service use were ‘content superiority’ ‘system quality’, and ‘service differentiation’. A research model was designed for pathway analysis to establish the causal relationship between each selection attribute and perceived value and to assess which attribute the center of gravity was concentrated on. The model was also designed to assess any impact on consumers’ purchase intentions and continuous use intentions using perceived value as a medium and to identify any direct impact on continuous use intentions.

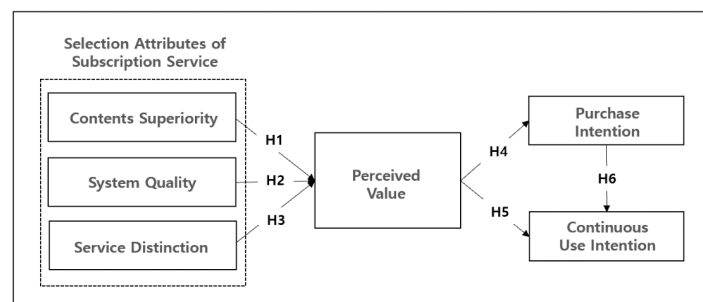


Figure 1. Research model.

3.2. Operational Definition and Measurement Variables

For survey purposes, the operational definition and measurement items for each variable were designed on a 5-point Likert scale (1 = totally disagree, 5 = totally agree) based on the literature review (See Table 1). The selection attributes affecting the independent variable—subscription service—were defined as content superiority, system quality, and service differentiation based on the selection attributes of a subscription economy within a digital platform environment, as suggested by Tao and Xu [29] and Noorda [56]. Content superiority was comprised of four items (characteristics of offerings)—diversity, interest, up-to-date, and superiority compared to price; system quality comprised three items—stability, convenience, and information protection; while service differentiation comprised three items—uniqueness, responsiveness, and customization.

Table 1. Variable definitions.

Factors		Survey Items	References
Selection Attributes	Content Superiority	<ul style="list-style-type: none"> - Diverse assortment of goods - Pleasant and interesting information - Can access latest product information - Good value for money offerings 	Tao and Xu [29], Noorda [56]
	System Quality	<ul style="list-style-type: none"> - System is stable w/o disconnections or errors - Easy and convenient to access and use - No concerns about breach of personal data or leakage 	
	Service differentiation	<ul style="list-style-type: none"> - Unique services - Responsive to consumer needs or inquiries - Good customized service 	
Perceived Value		<ul style="list-style-type: none"> - Subscription service has economic value - Subscription service has social value - Subscription service has emotional value - Subscription service has informational value 	Sun [57]
Purchase Intentions		<ul style="list-style-type: none"> - Will use required subscription services no matter what - Will use desired subscription service regardless of price 	Kang and Kim [58], Hamari et al. [59]
Continuous Use Intentions		<ul style="list-style-type: none"> - Will continue to use the current subscription service - Willing to try out a new subscription service - Willing to introduce the current subscription service to others 	Bhattacharjee [60], Jeon et al. [61]

Perceived value as a parameter was comprised of four items—economic, social, emotional, and informational value—based on Sun [57]. The two dependent variables for subscription service purchase intentions were required use intentions and preferred use intentions, as suggested by Hamari et al. [58] and Kang and Kim [59]. Continuous use intentions were comprised of three items—continued use intentions, intention to use a new object, and use recommendations—based on prior studies by Bhattacharjee [60], Jeon et al. [61]. Upon measurement factor analysis, ‘superiority compared to price’ for content superiority and ‘information protection’ for system quality were not included; as a result, 17 out of 19 factors were ultimately used as final measurement factors, excluding the two mentioned above (see Table 1).

3.3. Survey and Analytic Methods

An online survey was conducted among consumers residing in South Korea who had used subscription services within the past year, via a research company panel etc., for 14 days from 4 February 2020 to 18 February 2020. A total of 442 questionnaires were returned and data from 434 copies were analyzed, with the exception of eight with insincere or missing answers. SPSS 26.0 (IBM, Seoul, Korea) was used for descriptive statistics and regularity analysis of demographic characteristics and variables; AMOS 26.0 (IBM, Seoul, Korea) was used for structural equation modeling to determine relations in diagram form through regression and pathway analysis.

As shown Table 2, 54.6% of the respondents were male, and 45.4% were female. Age was widely distributed from 20s to 50s: 13.8% for 20s, 25.1% for 30s, 31.8% for 40s, and 28.3% for 50s. Of the sample, 63.8% were university graduates. The usage status of subscription services included OTT services, books and contents, household or living goods, etc. TV and music streaming services were excluded since subscriptions and payments are mostly made online, and involve bundled service payment plans, which is a unique characteristic of the South Korean market. The respondents provided answers based on the brand they had been subscribed to for the longest; comparative analysis was carried out between two consumer groups in terms of purchase type: 67.3% unlimited access type, 32.7% regular delivery type.

Table 2. Demographic breakdown of survey participants.

	Division	Frequency	Percent (%)
Gender	Male	237	54.6
	Female	197	45.4
	Total	434	100
Age (years)	20s (20–29)	60	13.8
	30s (30–39)	109	25.1
	40s (40–49)	138	31.8
	50s (50–59)	123	28.3
	No answer	4	0.9
	Total	434	100
Education	High School	75	17.3
	University	277	63.8
	Graduate school	41	9.4
	No answer	41	9.4
	Total	434	100
Purchase type	Unlimited access	292	67.3
	Regular delivery	142	32.7
	Total	434	100

4. Results

4.1. Analysis Results of Reliability and Validity

Composite reliability index analysis was carried out for the internal consistency of each item. Every item exceeded the reference of 0.7, securing reliability with internal consistency for each factor. The convergent validity of items was determined based on factor loading, average variance extracted, and composite reliability [62]. A factor loading of 0.4 and Cronbach $\alpha \geq 0.6$, with statistical significance, can mean convergent validity [63]. In this study, the factor loading was 0.522 to 0.8672 with a t-value of at least 4.0 for all, which is statistically significant. Average extracted variance was 0.505 to 0.721 and Cronbach α was 0.750 to 0.904, securing convergent validity. As for the goodness-of-fit index (GFI) of the model, $\chi^2(df)$ was 302.225 and $\chi^2/degree$ of freedom was 2.028. With a GFI of 0.938, the adjusted goodness-of-fit index (AGFI) of 0.913, a normal fit index (NFI) of 0.941, and a root mean square error of approximation (RMSEA) of 0.049, the components of goodness-of-fit for the model were statistically significant on the basis of the reference presented by Hong et al. [64] (see Table 3).

The AVE (average variance extracted) and correlation coefficient between latent variables were estimated for discriminant validity. Generally, it can be said that when the square root of AVE from each latent variable is larger than the correlation coefficient with other concepts, the discriminant validity between latent variables is secured [65]. As presented in Table 4, the square root of AVE from

each latent variable was larger than the correlation coefficient with other variables, and discriminant validity was secured for the tool.

Table 3. Results of reliability and convergent validity testing.

Factors	Variable	Standardized Factor Loading	Standard Error	t-Value (p)	CR	AVE	Cronbach α
Content Superiority	CS1	0.713					
	CS2	0.725	0.078	13.289 ***	0.754	0.505	0.750
	CS3	0.694	0.085	12.806 ***			
System Quality	SQ1	0.737					
	SQ2	0.765	0.073	13.799 ***	0.721	0.564	0.722
Service Differentiation	SD1	0.622					
	SD2	0.782	0.097	12.509 ***	0.777	0.540	0.778
	SD3	0.788	0.1	12.564 ***			
Perceived Value	PV1	0.84					
	PV2	0.833	0.05	20.892 ***	0.905	0.703	0.904
	PV3	0.854	0.052	21.705 ***			
	PV4	0.827	0.052	20.672 ***			
Purchase Intentions	BI1	0.900					
	BI2	0.795	0.051	17.728 ***	0.837	0.721	0.834
Continuous Use Intentions	UI1	0.809					
	UI2	0.867	0.052	19.856 ***	0.866	0.683	0.864
	UI3	0.802	0.051	18.170 ***			

Note: (1) Measurement model fit: χ^2 (df) 302.225, $p = 0$, DF 149, χ^2 /DF 2.028, RMR 0.021, GFI 0.938, AGFI 0.913, NFI 0.941, TLI 0.96, CFI 0.969, RMSEA 0.049. (2) *** $p < 0.001$.

Table 4. Correlation matrix and Average Variance Extracted.

Factors	AVE	CS	SQ	SD	PV	PI	CUI
Content Superiority (CS)	0.569	0.754					
System Quality (SQ)	0.564	0.618 **	0.751				
Service Differentiation (SD)	0.540	0.574 **	0.572 **	0.735			
Perceived Value (PV)	0.703	0.517 **	0.527 **	0.583 **	0.839		
Purchase Intentions (PI)	0.721	0.430 **	0.382 **	0.392 **	0.551 **	0.849	
Continuous Use Intentions (CUI)	0.683	0.457 **	0.396 **	0.453 **	0.604 **	0.668 **	0.827

Note: (1) The dark diagonal part is the square root value of average variance extracted. (2) ** $p < 0.01$.

4.2. Analysis Results of Structural Model

To determine the association between selection factors for subscription services via-a-vis perceived value, as well as behavioral and continuous use intentions, the goodness-of-fit of the structural model was determined, as presented in Table 5. The absolute fit indexes of χ^2 statistics, GFI, AGFI, and RMSEA and the incremental fit indexes, which are not affected by the sample but show the explanatory power of the model, such as NFI and the comparative fit index (CFI), were used. Generally, when $GFI \geq 0.9$, $AGFI \geq 0.8$, the root mean square residual (RMR), which refers to the variance size of the sample not explained by the model, ≤ 0.1 , and χ^2 divided by the degree of freedom ≤ 5 , the goodness-of-fit of the model is satisfactory. With the goodness-of-fit reference, χ^2 (df) was 321.475 ($p = 0.000$), χ^2 /degree of freedom was 2.048, GFI was 0.935, and AGFI was 0.931 (≥ 0.9). RMSEA was 0.049, NFI was 0.937, and CFI was 0.945; thus, it generally had good explanatory power.

Based on the final structural equation model pathway coefficient for hypothesis testing, the selection attributes affecting the perceived value of subscription services were found to be content superiority ($\beta = 0.247$, $p < 0.05$) and service differentiation ($\beta = 0.365$, $p < 0.05$); thus, Hypothesis 1 and 3 were adopted. In contrast, system quality failed to affect perceived value; thus, the hypothesis was rejected.

As for the association between perceived value and subscription service purchase intentions and continuous use intentions in consumers, both purchase intentions 0.631 ($p < 0.001$) and continuous use intentions 0.308 ($p < 0.001$) were found to have a positive impact; thus, the hypotheses were adopted. Purchase intentions positively affected continuous use intentions, 0.598 ($p < 0.001$); thus, the hypothesis was adopted.

Table 5. Results of hypothesis testing.

Hypothesis		Standardized Factor Loading	t-Value (p)	Status of Acceptance	R ²
H1	Content Superiority → Perceived Value	0.247	2.069 *	Accepted	0.553
H2	System Quality → Perceived Value	0.159	1.293	Rejected	
H3	Service Differentiation → Perceived Value	0.365	3.182 *	Accepted	
H4	Perceived Value → Purchase Intentions	0.631	12.644 ***	Accepted	0.398
H5	Perceived Value → Continuous Use Intentions	0.308	5.671 ***	Accepted	0.685
H6	Purchase Intentions → Continuous Use Intentions	0.598	9.599 ***	Accepted	

Note: (1) Structural model fit: χ^2 (df) 321.475, p 0.00, DF 157, χ^2 /degree of freedom 2.048, RMR 0.026, GFI 0.935, AGFI 0.913, NFI 0.937, TLI 0.959, CFI 0.945, RMSEA 0.049; (2) * $p < 0.05$, *** $p < 0.001$.

Bootstrapping was used for statistical analysis of the direct and indirect effects of the three factors—content superiority, system quality, and service differentiation—on purchase intentions and continuous use intentions through the medium of perceived value. Among the selection attributes, only service differentiation significantly affected purchase intentions (0.230, $p < 0.05$) and continuous use intentions (0.250, $p < 0.05$) based on perceived value as a medium. Perceived value significantly affected continuous use intentions through the medium of purchase intentions (0.377, $p < 0.05$). It was confirmed that service differentiation affects purchase intentions and continuous use intentions through perceived value as a medium. In contrast, content superiority (0.461, $p < 0.001$) and system quality (0.396, $p < 0.001$), neither of which was mediated by perceived value, directly affected purchase intentions and continuous use intentions. This result demonstrates that the selection attributes of digital platform-based subscription services can directly affect consumers’ buying behavior without the mediation of perceived value (see Table 6).

Table 6. Direct, indirect and total effect.

Dependent Variable	Explanatory Variable	Direct Effect	Indirect Effect	Total Effect
Purchase Intentions	Perceived Value	0.631 ***	-	0.631
	Content Superiority	0.422 ***	0.156	0.578
	System Quality	0.382 ***	0.100	0.482
	Service differentiation	0.392 ***	0.230 *	0.622
Continuous Use Intentions	Purchase Intention	0.598 ***	-	0.598
	Perceived Value	0.308 ***	0.377 *	0.685
	Content Superiority	0.461 ***	0.169	0.630
	System Quality	0.396 ***	0.109	0.505
	Service Differentiation	0.453 ***	0.250 *	0.703

Note: * $p < 0.05$, *** $p < 0.001$.

5. Conclusions

This study provides an analysis of the key selection attributes and consumer behavior related to the purchase intentions and continuous use intentions of digital platform-based subscription service users. The main results are as follows: first, perceived value of subscription service users was positively affected by content superiority and service differentiation but was not affected by system quality. As found in the literature review, this result is consistent with findings that suggest that the quality attributes of products or services consumers experience exhibit a relatedness that

allows users to perceive certain economic, social, emotional, and informational value. However, system quality was not perceived as a direct consumption value despite technological convenience or usefulness. While existing studies by Chuah et al. [66] and Jankowski et al. [67] indicated that system quality might positively affect consumers' perceived value in consuming digital contents or in using mobile applications, system quality was not found to be linked to consumers' perceived value in the context of choosing subscription services. Superiority of service contents was confirmed to have the strongest impact on perceptions of consumption value over technical superiority in the case of subscription services.

Second, while service differentiation affected purchase intentions or continuous use intentions through the medium of perceived value, content superiority or system quality was not mediated by perceived value but was found to directly affect purchase intentions and continuous use intentions. Ultimately, the selection attributes affecting digital platform-based subscription service users can directly affect consumer purchases and behavior without being mediated by perceived value. Previous studies generally indicated that only when consumers perceived motivations for use, selection attributes, and quality as the perceived value of service goods would there be purchase intentions or an influence on users' purchase satisfaction and repurchase [68–70]. Contrary to general service goods, however, this study confirmed that consumers' selection attributes can directly affect their buying behavior in the case of subscription services. Subscription service consumers tend to choose direct purchase intentions and continuous service use via selection attributes because they are inclined to choose contents through experiential consumption, while determining value at the time of service selection according to the customized service that is provided [71,72].

Third, the most important among factors directly affecting purchase intentions and continuous use intentions for subscription services was found to be content superiority. This result implies that subscription service goods may have content attributes such as content value, originality of service packages, freshness and uniqueness of contents, which may have a greater influence on customers compared to the traditional attributes of quality or price for general products and services. As previous studies [73,74] contended, changes in the economic environment, including the shared economy and contents economy, have allowed today's customers to consume experiences and stories, emotions, and social values; therefore, subscription services must be understood as a transactional relationship where consumers' values and tastes affecting their consumption behaviors, instead of being viewed as a simple means of fulfilling people's needs by providing necessity products or services.

Today, the strategy of subscription services is understood as a business model creation strategy to create a new market through a diversity of platforms and ideas that go beyond simply selling new types of products. In addition, consumers understand subscription services as a market for buying new experiences and contents, not as just another convenient means of consuming products and services. While subscription service providers need to reinforce technical usability or system quality in terms of their online and mobile platforms, more importantly, they must place priority on creating a unique and creative method for offering services while also providing a diversity of new content. That is why this study offers a contribution to improve the new subscription service market by open innovation [75,76].

This study has regional limitations as it was conducted among subscription service consumers in South Korea. Because the types and characteristics of subscription services vary by country and region—which can lead to different consumer behaviors—it is necessary to conduct empirical research in a global consumer groups with the objective of investigating the selection attributes for generalized subscription services and associated consumer behavior. This study had another limitation in that it includes no discussion on the major, general variables affecting consumers' buying behavior, such as tangibility and intangibility of goods, usage platforms, shopping time, lifestyle, etc., as control variables. Further research needs to give more consideration to diverse variables that can impact consumers' consumption behavior patterns associated with subscription services. Lastly, while this study was conducted based on a classification of subscription services into unlimited access vs. regular delivery types, subscription services may in fact have many different types, including random bundle

deliveries, replenishment, curation packages, etc. Further research needs to investigate consumer behavior and purchase intentions, taking into account market characteristics by subscription service type, and make more specific and significant suggestions for subscription service providers.

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