Perceiving Control over the Exchange on Peer-to-Peer Platforms: Measurement and Effects in the Second-Hand Market

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Abstract: While the emergence of peer-to-peer (P2P) platforms has revolutionized the way people exchange goods, these platforms face the need to provide appealing products offered by independent providers. However, those providers have to deal with anonymous buyers, potentially hindering their perception of control over the exchange and their subsequent willingness to use the platform. Our research addresses this issue of providers' control. Because prior research uses either environment-centric or individual-centric measures of control, no accurate measure of perceived control exists. This research aims to contribute by providing a scale that—in line with control theories—differentiates among the perceptions of control that derive from individual (i.e., skills-related) and those that emerge from the environment (i.e., security-related, autonomy-related). The results of four empirical studies performed in the second-hand market provide strong empirical support for the validity of our control scale, and its ability to explain the provider's experience on the P2P platform.

Keywords: Peer-to-peer platforms; provider; perceived control; online

1. Introduction

Peer-to-peer (P2P) platforms that offer short-term apartment rentals (Airbnb), car rides (Uber), second-hand products (Craigslist), or home services (TaskRabbit) contribute to the development of a new wave of online services. Contrary to traditional businesses, these platforms depend on peer-based resources, in which private individuals provide goods and services. These platforms are confronted with the challenge of attracting high-quality providers who supply appealing products (Goldbach et al., 2018). Because these providers contribute to customers' service experience through the provision of their own assets but most often exchange with customers they have not dealt with before, they are eager to have sufficient control throughout the exchange process (Luo et al., 2021).

This managerial problem highlights the importance of perceived control for P2P platforms. However, extant research on perceived control is characterized by several limitations (Appendix – Tables 5 and 6). First, the increasing body of measurement scales in the platform context often overlooks the exact nature and dimensionality of the construct. Specifically, despite the clear indication that perceived control is multidimensional (Skinner, 1995, 1996), extant measures are often unidimensional (Tiwana, 2015), thus preventing them from capturing the whole complexity of the construct. Second, researchers often conceptualize perceived control as a chronic trait, while perceptions of control largely emerge from the environment (Skinner, 1995, 1996). Therefore, such measures may provide little insight into why a provider perceives a lack of control at a particular moment on a platform. Third, control conceptualizations in the platform context often assume that control is derived only from mechanisms proposed by the platform (e.g., rules, tools, and procedures; Tiwana, 2015). They ignore the ability of individuals to control their environment by their own means.

Against this background, our research offers a comprehensive conceptualization and scale of provider-perceived control on P2P platforms. Specifically, provider-perceived control

on P2P platforms here refers to a three-dimensional construct that involves i/ skills-related control (i.e., a dimension in which providers perceive they are sufficiently skilled to achieve the transaction effectively), ii/ security-related control, and iii/autonomy-related control (i.e., two dimensions that respectively refer to perceptions that the platform provides sufficient security and autonomy to perform the transaction effectively). By providing this conceptualization of perceived control, we first respond to recent research calls for scholars to reconceptualize control in the platform context (Eckhardt et al., 2019; Swaminathan et al., 2020). Second, by developing a multidimensional scale, we offer a robust and valid measure of perceived control in the platform context. Third, the test of the scale offers insights into the underexplored experience of providers on platforms.

Next, we discuss the importance of control perceptions from providers' perspective in the P2P platform context. We then review extant control measures and develop our measurement scale through one qualitative study and three quantitative studies. Finally, we discuss the implications of our scale for platform literature and future research.

2. Literature review

P2P platforms are supplied by individuals who share their private assets with other customers. In this context, control appears to be a core issue because P2P platforms cannot exert direct control over unowned assets. Consequently, they need to provide their suppliers with an online environment that makes them feel in control when they navigate the platform to offer high-quality products (Mody et al., 2020). When providers perceive that they have little control over the exchange, they may be reluctant to provide their assets on a platform or may bypass the platform. It follows that perceptions of control are central to explaining provider sharing behaviors on P2P platforms.

Despite the importance of perceived control in the platform context and an increasing number of extant measures (Appendix – Table 5), measuring perceived control remains problematic. Some measures are unidimensional and assess only one particular type of control, such as perceived control over information (Krasnova et al., 2010; Taddei & Contena, 2013; Tiwana, 2015). These measures offer the advantage of simplicity but do not reflect the theoretical richness of the control concept. On the contrary, multidimensional measures help assess the various control mechanisms (rules, governance tools, procedures, etc.) developed by the platform (e.g., Croitor & Benlian, 2019; Goldbach et al., 2018), but they only consider the mechanisms proposed by the platform as means of control. As such, they adopt an environment-centric perspective and assume that users do not perceive themselves as being able to master their environment by their own means, a proposition that stands against acknowledged conceptualizations of perceived control (Skinner, 1995, 1996).

Beyond platforms, prior research in marketing examined perceived control across a wide set of other contexts (Appendix – Table 6). This body of work again suggests a preference for unidimensional measures of perceived control. Unlike measures developed in the platform context, these studies adopt an individual-centric perspective by assessing how much control customers perceive, either through information, choice, or individual resources (Büttgen et al., 2012; Esmark et al., 2016). However, control perceptions do not emerge only from the belief that one has sufficient capacities to reach one's goals but also from the view of the environment as enabling such control.

In sum, while perceived control is a key variable in the P2P platform context, existing measures of control adopt either environment- or individual-centric measures of control. Although both perspectives can be useful, each appears to be incomplete. However, they both seem needed to fully understand the construct, as revealed by the measure that we present next.

3. Empirical studies

Four empirical studies were performed among resellers on the second-hand market because this industry is characterized by a growing number of P2P platforms.

3.1. Study 1

Study 1 aims to gain a deeper understanding of providers' perceived control on P2P platforms. We conducted 26 semi-directed interviews (M_{Length} = 40 minutes; N = 16 women; 17 to 75 years of age; various resale frequencies). The open-ended questions addressed three themes: most recent second-hand resale experience, transactions completed on platforms, and how the respondents conducted the transactions. A content analysis of the data using an open-coding approach (Miles & Huberman, 1994) revealed three dimensions as facets of the control construct (Appendix – Table 7), which are consistent with the comprehensive model of perceived control developed by Skinner (1995, 1996).

In line with the notion that control beliefs can originate from the perception of being skilled (Bandura 1997), the first dimension—skills-related control—refers to providers' beliefs about their own ability to master the resale process. While some respondents emphasized that their own skills were sufficient to avoid risks (insecurity, unwanted free-riding, or information asymmetry with buyers), others experienced difficulties on platforms because of their lack of skills. This dimension echoes the individual source of perceived control (Skinner, 1995, 1996).

The two other dimensions that emerged pertain to control perceptions derived from the platform or how such a platform helps providers produce the desired outcomes, that is, the completion of the transaction. One dimension—security-related control—reflects providers' belief that the platform provides sufficient security during the resale process. The last dimension refers to autonomy-related control and is derived from the view of the platform as giving providers the necessary autonomy to perform the exchange effectively. Unlike the first

dimension, these two platform-based dimensions reflect environmental sources of control (Skinner, 1995, 1996).

From this exploratory study, 44 items that spanned the three identified dimensions were generated. Five marketing professors evaluated the items after being presented with the concept and the definitions of its three dimensions. The items that were designated as not representative of the concept, ambiguous, or redundant were removed (Rossiter, 2002), leaving a pool of 25 items.

3.2. Study 2

Study 2 aims to purify the set of 25 items. A sample of second-hand product resellers was recruited online by a panelist using a sample selection process and filter questions to prequalify respondents[1] (N = 256, 73% women, 92% non-students). Participants were asked to remember their last second-hand product resale on a P2P platform, and they rated their control perceptions using the 25 items (a seven-point Likert scale). From an exploratory factor analysis, the three dimensions revealed by the interviews emerged (eigenvalues > 1; Hair et al., 2018): skills-related control, security-related control, and autonomy-related control. Items with unsatisfactory factor loadings (< .50 on their main dimension), cross-loadings, or unsatisfactory alpha values (< .70) were removed. The three identified dimensions accounted for 72.6% of the total variance (Table 1).

A confirmatory factor analysis (CFA) performed in Mplus assessed the reliability and validity of the dimensions. The model demonstrated good fit criteria (model fit: comparative fit index [CFI] = .92; Tucker-Lewis index [TLI] = .90; root mean square error of approximation [RMSEA] = .07; standardized root mean square residual [SRMR] = .08). The average variances extracted (AVEs) were above .50, suggesting satisfactory convergent

[1] We used a set of filter questions in the questionnaire, including the date of last resale, resale in a personal context (vs. professional activity), product category of the last resold item, and platform used for the last exchange.

validity. Discriminant validity was also established, with the square roots of AVEs being greater than all individual correlations. The composite reliabilities were all satisfactory (> .60).

We likewise assessed whether perceived control conformed to a second-order reflective construct or to a set of three related lower-order dimensions. First, the low correlations among the three control dimensions gave the first indication for the three lower-order dimensions. Second, we estimated the second-order construct. Although the fit criteria were acceptable (CFI = .94; TLI = .90; RMSEA = .08; SRMR = .06), the factor loadings of security-related control (.44) and autonomy-related control (.58) were rather low, suggesting three lower-order control dimensions (LePine et al., 2002).

[Insert Table 1]

3.3. Study 3

Study 3 assesses the discriminant validity of the scale. Using the same recruitment and selection process as in Study 2, the online sample included 278 resellers (59.8% women, M_{Age} = 41.86 years, SD_{Age} = 11.22). The questionnaire contained an 11-item perceived control scale, along with measures of some theoretically related constructs: dominance, general personal control, locus of control, empowerment, and perceived risk (Appendix – Table 8).

We assessed the scale using CFA, and the model demonstrated good fit criteria (model fit: CFI = .97; TLI = .96; RMSEA = .08; SRMR = .05). Convergent validity, composite reliabilities, and internal discriminant validity were satisfactory (Table 1). We also established the external discriminant validity of our 11-item measure, with the squared correlation of the five selected constructs and the three dimensions of perceived control being lower than their AVEs (Fornell & Larcker, 1981; Table 2).

[Insert Table 2]

3.4. Study 4

Addressing the call of scholars to study the influence of control on provider experience (Eckhardt et al., 2019), Study 4 tests a theoretical model of perceived control over the exchange on platforms. Research on control often builds on reactance theory (Brehm, 1966) and shows that, as control is reduced, people will act in ways to regain control (Esmark et al., 2016). Therefore, in the literature, perceived control appears crucial during the service experience (Hui & Bateson, 1991) and, accordingly, represents a key determinant of the perceived value (Rose et al., 2012). In a digital context, such perceived value is an antecedent of satisfaction (Lin & Wang, 2006), and satisfaction is a key driver of loyalty (Lim et al., 2015). In addition, considering that predictability is important for people who feel that their sense of personal control over their environment is threatened (Lembregts & Pandelaere, 2019), we predict that past experience with the platform moderates the effects of perceived control, as it might increase predictability. Thus, we propose the following hypotheses:

Hypothesis 1: Providers' (a) perceived security-related control, (b) autonomy-related control, and (c) skills-related control positively influence the perceived value associated with the platform experience.

Hypothesis 2: Past experience moderates the effect of perceived control on perceived value: the relationship is stronger with increasing providers' experience with the platform.

Hypothesis 3: The perceived value associated with the platform experience positively influences satisfaction with the platform.

Hypothesis 4: Satisfaction with the platform positively influences intentions to reuse the platform.

An online panelist collected data from 365 resellers (62.9% women, M_{Age} = 32 years, SD_{Age} = 10). Resellers rated their intentions to reuse the platform (Wu & Chang, 2005), their satisfaction with the platform (Oliver, 1997), and the value derived from the platform, which spans four dimensions: return on investment, service excellence, playfulness, and aesthetic appeal (Mathwick et al., 2001). They then completed our three-dimensional perceived control scale and a composite measure of perceived control (Cutright et al., 2013). They also rated their past experiences with the platform (Meuter et al., 2005). We controlled for the influence

of age, gender, and income. The measurement properties of the scales were satisfactory (Table 3). We only removed service excellence from the value scale because of its high correlation with return on investment.

[Insert Table 3]

Using structural equation modeling (Mplus), we estimated three models (Table 4). Model 1a estimated the model that involved our control measure, Model 1b also included the moderating effects, and Model 2 considered a composite measure of perceived control. The three models display a satisfactory model fit. The results show, first, that our three-dimensional scale (Model 1) explains more variance in perceived value than a composite measure of control (Model 2). Second, the results show the positive effects of our three-dimensional scale of control on the perceived value dimensions, as expected in H1. Nevertheless, one unexpected effect emerged, with a significant and negative impact of skills-related control on playfulness. This effect could be explained by the instrumental context of the resale, in which individuals with strong feelings of controlling the resale process do not necessarily seek experiential gratification, such as play. Regarding the interaction effects, past experience with the platform strengthened the positive relations between autonomy-related control and perceived value dimensions, thus providing partial support for H2. Turning to the rest of the model, two value dimensions (aesthetic value and return on investment) were positively related to customer satisfaction, partially supporting H3. Nevertheless, and despite a positive correlation between playfulness and satisfaction, this effect turned negative when testing together with other value dimensions, probably because of the instrumental context of resales as well. Finally, the positive effect of satisfaction on intentions was in line with H4.

[Insert Table 4]

4. Discussion

4.1. Theoretical implications

This research makes three contributions to the literature. First, we build a multidimensional and comprehensive conceptualization of perceived control, which offers the advantage of a multidimensional view of control, distinguishing between individual and environmental sources of control (Skinner, 1995, 1996). As such, we extend prior literature that most often addressed only one of the two or that considered perceived control as a trait and not as context sensitive (Rotter, 1966).

Second, we develop a scale that was extensively tested in the platform context using data from multiple samples and that provided solid empirical evidence for its reliability, and validity. We also demonstrate that the scale displays discriminant validity from the usual perceived control measures. We highlight that perceived control should be measured as a lower-order construct consisting of three related but non-redundant dimensions.

Third, our results show that our multidimensional scale has greater explanatory power than a composite scale and that it helps explain providers' perceived value associated with their platform experience and the subsequent satisfaction and intentions (Mody et al., 2020). We also provide evidence of provider differences in the three different dimensions of the scale on important outcomes for platforms.

4.2. Practical implications and future research

The precise diagnostic of perceived control that our scale establishes helps managers make appropriate decisions about the platform design. Managers can use the developed scale, particularly the security-related control and autonomy-related control dimensions, to assess the relevance of the implementation of a new control mechanism (e.g., systems dedicated to controlling user identity or securing monetary transactions). For example, they can assess how the implementation of such a control mechanism shapes control perceptions. The scale, specifically the skills-related control dimension, can also help assess the individual capacities of providers and, consequently, to propose training that will improve their skills.

Future research should validate the developed scale across other platforms. First, we tested the scale in a specific P2P exchange context. However, P2P platforms span a wide variety of service exchanges, such as short-term rentals, accommodations, and local trading systems. Second, we suggest using the scale to explain other important outcomes, such as switching behavior or platform loyalty (loyalty behavior and customer engagement). Third, future research could further examine the boundary conditions of perceived control. Some platform characteristics (degree of exclusivity), product characteristics (nature of the exchange asset), and customer (reputation) characteristics might affect the relationship between perceived control and its consequences.

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Table 1 – Results of exploratory and confirmatory factor analyses (studies 2 and 3)

	Item	Study 2 Exploratory factor analysis*			Study 2 Confirmatory factor analysis			Study 3 Confirmatory factor analysis		
		Loading	**Alpha**	**AVE**	**Loading**	**CR**	**AVE**	**Loading**	**CR**	**AVE**
Skills-RC	I have enough experience …									
	… to not put myself at risk associated with the resale (specific payment strategies, identity verification of the buyer) (Skills-RC 1)	.75			.70			.78		
	… to resolve the situation in case of dispute (Skills-RC 2)	.86	.87	.64	.75	.87	.64	.89	.94	.79
	… to overcome potential problems associated with the resale (misleading description, frauds) (Skills-RC 3)	.89			.90			.94		
	… to protect myself from scams (no payment, false bank transfer) (Skills-RC 4)	.87			.83			.94		
Security-RC	On this website, …									
	… I have the guarantee to be paid (Security-RC 1)	.82			.76			.75		
	… the honesty of the buyer is ensured (Security-RC 2)	.86			.77			.93		
	… I am protected from the risk associated to the completion of the resale (sell for less than market value, no payment) (Security-RC 3)	.88	.90	.68	.88	.89	.68	.90	.93	.77
	… I am preserved from scams that might arise during the resale (no payment, false bank transfer) (Security-RC 4)	.90			.88			.93		
Autonomy-RC	On this website, …									
	… I feel free when I realize a resale (Autonomy-RC 1)	.68			.58			.88		
	… the resale's progress depends mainly on me (Autonomy-RC 2)	.91	.74	.50	.64	.74	.50	.82	.88	.71
	… I am independent during the completion of the resale (Autonomy-RC 3)	.79			.87			.84		

* Rotation method: Promax. AVE: Average Variance Extracted; CR: Composite Reliability.

Table 2 - Correlations among control dimensions and related scales (study 3)

	AVE	Domi-nance	Locus of Control	General personal control	Empower-ment	Perceived Risk
Skills-RC	.77	.03	.09	.10	.28	.09
Security-RC	.79	.01	.08	.03	.20	.08
Autonomy-RC	.71	.30	.05	.26	.58	.09

AVE: Average Variance Extracted.

Table 3 - Psychometric properties (study 4)

Item	Factor loading	Composite reliability	Average variance extracted
Skills-RC 1	.85	.94	.79
Skills-RC 2	.90		
Skills-RC 3	.93		
Skills-RC 4	.88		
Security-RC 1	.83	.94	.80
Security-RC 2	.91		
Security-RC 3	.93		
Security-RC 4	.91		
Autonomy-RC 1	.76	.84	.63
Autonomy-RC 2	.83		
Autonomy-RC 3	.79		
Aesthetics 1	.82	.93	.68
Aesthetics 2	.89		
Aesthetics 3	.88		
Aesthetics 4	.77		
Aesthetics 5	.86		
Aesthetics 6	.70		
Playfulness 1	.89	.96	.83
Playfulness 2	.92		
Playfulness 3	.91		
Playfulness 4	.91		
Playfulness 5	.91		
ROI 1	.74	.88	.56
ROI 2	.77		
ROI 3	.72		
ROI 4	.67		
ROI 5	.77		
ROI 6	.80		
Satisfaction 1	.91	.92	.80
Satisfaction 2	.87		
Satisfaction 3	.91		
Intention 1	.92	.95	.86
Intention 2	.95		
Intention 3	.91		
Experience 1	.93	.95	.85
Experience 2	.90		
Experience 3	.94		

Model fit: CFI (Comparative Fit Intex)=.92; TLI (Tucker–Lewis index)=.91; RMSEA (Root Mean Square Error of Approximation)=.06; SRMR (standardized root mean square residual)=.06.

Table 4 – Testing the nomological network of control dimensions (study 4)

		Model 1a: Main Effects Model			Model 1b: Interaction Effects Model			Model 2: Composite Model		
DV	**IV**	**B**	***p*-value**	**R^2**	**B**	***p*-value**	**R^2**	**B**	***p*-value**	**R^2**
Intention	Satisfaction	.79*	.00	.63	.79*	.00	.63	.78*	.00	.62
	Age	.03	.24		.03	.24		.03	.24	
	Gender	-.03	.27		-.03	.27		-.03	.27	
	Income	-.06	.06		-.06	.06		-.07	.06	
Satisfaction	Aesthetics	.32*	.00	.54	.32*	.00	.54	.31*	.00	.52
	Playfulness	-.22*	.00		-.22*	.00		-.19*	.00	
	ROI	.64*	.00		.64*	.00		.61*	.00	
	Age	.07	.09		.07	.09		.07	.08	
	Gender	-.01	.44		-.01	.44		-.01	.40	
	Income	-.06	.09		-.06	.10		-.07	.09	
Aesthetics	Security-RC	.32*	.00	.37	.31*	.00	.37			.27
	Skills-RC	.06	.15		.06	.18				
	Autonomy-RC	.19*	.00		.19*	.00				
	Control (Composite)							.39*	.00	
	Experience w. platform	.28*	.00		.29*	.00		.31*	.00	
	Age	-.04	.23		-.04	.22		-.06	.13	
	Gender	-.04	.22		-.04	.20		-.03	.27	
	Income	.12*	.01		.12*	.01		.13*	.00	
	Security x Experience				.00	.48				
	Skills x Experience				-.06	.15				
	Autonomy x Experience				.09*	.04				
Playfulness	Security-RC	.33*	.00	.49	.30*	.00	.50			.27
	Skills-RC	-.11*	.03		-.10*	.04				
	Autonomy-RC	.49*	.00		.47*	.00				
	Control (Composite)							.42*	.00	
	Experience w. platform	.20*	.00		.23*	.00		.27*	.00	
	Age	-.04	.22		-.05	.16		-.08	.06	
	Gender	.05	.14		.04	.19		.08*	.05	
	Income	.07	.06		.06	.08		.08	.06	
	Security x Experience				.09*	.02				
	Skills x Experience				-.04	.21				
	Autonomy x Experience				.14*	.00				
ROI	Security-RC	.07	.09	.53	.05	.17	.54			.33
	Skills-RC	.10*	.04		.11*	.03				
	Autonomy-RC	.47*	.00		.46*	.00				
	Control (Composite)							.38*	.00	
	Experience w. platform	.30*	.00		.32*	.00		.42*	.00	
	Age	.00	.49		.00	.50		-.02	.38	
	Gender	-.12*	.01		-.12*	.01		-.09*	.04	
	Income	.04	.20		.03	.24		.04	.22	
	Security x Experience				.01	.41				
	Skills x Experience				.01	.45				
	Autonomy x Experience				.12*	.00				
	CFI	.90			.90			.88		
	TLI	.89			.89			.87		
	RMSEA	.07			.06			.08		
	SRMR	.07			.08			.13		

*: $p < .05$

Appendix

Table 5 – Perceived control measurement in the platform context

Author(s)	Concept: definition	Dimensionality	Platform – Perspective
Boudreau (2010)	Platform control: how much control is concentrated under the platform owner	Unidimensional: indicator related to equity shares held by independent hardware developers in platform owners, as well as that held by the platform owner itself	Technical platforms (computing systems) – Platform's perspective
Krasnova et al. (2010)	Perceived control: active component of information privacy on social networking sites	Unidimensional: 1. Perceived control	Social networking sites (Facebook, StudiVZ) – End user's perspective
Laffan (2012)	Platform openness: concept related to governance models describing the control points that are used to influence the decision-making process on the platform	Unidimensional: Open Governance Index (access, development, derivatives, community)	Mobile platforms – Platform's perspective
Taddei & Contena (2013)	Perceived control over information: perception of users about the possibility of managing their own information	Unidimensional: 1. Perceived control over information	Social networking site (Facebook) – End user's perspective
Benlian et al. (2015)	Platform openness: governance-related concept reflecting the trade-off between retaining and relinquishing control over a platform	Multidimensionality: 1. Transparency, 2. Accessibility	Mobile platform – Provider's perspective (Android app and Apple iOS developers)
Tiwana (2015)	Input control: formal control intended by the platform owner to regulate inputs into the ecosystem	Unidimensional: 1. Input control	Mozilla Foundation's Firefox Platform – Provider's perspective (Firefox extension developers)
Mukhopadhyay et al. (2016)	Control type: portfolio of the platform's control mechanisms	Multidimensional: 1 Behavioral control, 2. Outcome control, 3. Input control	Mobile platform – Provider's perspective (Value added service providers and app providers)
Goldbach et al. (2018)	Control: platform's attempts to influence third-party developers to act according to the platform's objective	Multidimensional: 1. Process control, 2. Output control, 3. Self-control	Google Play Store – Provider's perspective (Android app developers)

Author(s)	Concept: definition	Dimensionality	Platform – Perspective
Parker & Van Alstyne (2018)	Platform control: platform's decision about how much to open the platform	Multidimensionality: 1. Level of platform openness, 2. Duration of developer property rights	Platforms – Platform's perspective
Croitor & Benlian (2019)	Perceived input control: the third-party application developer's perceptions of the degree to which a platform provider uses gatekeeping and screening procedures to allow third-party developers' apps to enter a platform	Multidimensional: 1. Financial barrier, 2. Regulatory requirements, 3. Technical requirements, 4. Total expenditure, 5. Overall perception	Mobile platform – Provider's perspective (app developers)

Table 6 – Perceived control measurement in other contexts

Author(s)	Concept: definition	Dimensionality	Context
Donovan & Rossiter (1982)	Dominance: the extent to which an individual feels in control of or free to act in a situation	Unidimensional: 1. Dominance	Retailing
Hui & Bateson (1991)	Need to demonstrate one's competence, superiority, and mastery over the environment	Multidimensional: 1. Dominance, 2. Choice	Bank and bar
Dabholkar (1996)	Expected control: the amount of control a customer expects to have over the process or outcome of a service encounter	Unidimensional: 1. Expected control	New technology-based self-services
Bradley & Sparks (2002)	Service LOC: the relative consistency within people's perceptions of control over service quality across service situations	Multidimensional: 1. Internal, 2. External, 3. Chance	Services in general
Lwin & Williams (2003)	Perceived behavioral control: a function of control beliefs (perception of the presence of the requisite resources needed to carry out the behavior) and perceived facilitation (the importance of those resources to the achievement of the behavior)	Unidimensional: 1. Perceived behavioral control	Online services
Nysveen et al. (2005)	Perceived behavioral control	Unidimensional: 1. Perceived behavioral control	Mobile services (gaming, text-messaging, and payment)
Dabholkar & Sheng (2009)	Perceived behavioral control	Unidimensional: 1. Perceived behavioral control	Travel websites
Collier & Sherell (2010)	Ability to dictate the pace of the transaction, the nature of the information flow, and the level of interactivity	Unidimensional: 1. Perceived control	Self-service technologies
Büttgen et al. (2012)	Service LOC	Multidimensional: 1. Internal, 2. External, 3. Chance	Training facility
Mothersbaugh et al. (2012)	Information control: the extent to which a consumer believes they can influence whether and how the firm uses their personal information for marketing purposes	Unidimensional: 1. Information control	Online TV program

Author(s)	Concept: definition	Dimensionality	Context
Esmark et al. (2016)	Behavioral control: procedural control during co-production	Unidimensional: 1. Perceived behavioral control	Co-production
Guo et al. (2016)	Beliefs about the extent to which a potential means is available to a particular agent	Multidimensional: 1. Process control, 2. Decision control, 3. Information control	Service recovery
Hajli & Lin (2016)	Perceived control of information: the extent to which an individual feels that social network sites allow them to control the use of information through privacy settings	Unidimensional: Perceived control of information	Social network sites

Table 7 – Illustrative comments associated with providers' perceived control on second-hand resale platforms

Dimensions of perceived control	Illustrative comments
Skills-RC	*For my part, I have sufficient experience on these websites, so I've never had any problems. I'm able to know whether people are trustworthy or reactive. For example, I systematically have phone conversations, and I evaluate the nature of these conversations.* *I ensure that everything is going to take place in good condition. I have some usual practices when I sell something on a website. For example, I use Google Maps, I type the address, and I see where it is.* *With my experience, when I resell clothing on a website, I now ask systematically for the buyer to send me a check, I cash it, and when the check is cashed, I send the clothing.*
Security-RC	*During the resale, it's better to take some precautions for the payment through the use of some websites that secure the transaction, even if you lose a percentage of the sale price.* *eBay is well known: there are reviews of the buyers, as there are reviews of the sellers. It's an advantage in terms of trust during the transaction process. But it's more expensive.* *During the transaction, you can have a problem with the buyer. He can backfire on you. Thanks to Rakuten, you don't deal with this aspect. They manage the problem for you.*
Autonomy-RC	*On this website, it's you who decide. You're a kind of manager; you're the master of your sale, and it's pleasant.* *You can rely only on yourself to sell the items on the websites, and I think it's great. It is you who manages the transaction.*