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EVALUATION OF THE EFFECT OF PERCEIVED VALUE CO-CREATION ON PERCEIVED VALUE CO-PRODUCTION IN THE PROCESS OF PARTICIPATION IN SERVICES

Hatice AYDIN¹ Özer YILMAZ²

Abstract

It can be said that the consumer with the co-creator role fulfills many roles as a co-producer, and the next frontier of consumers' service co-creation is service co-production. Value Co-Creation and Value Co-Production Participation in services manifests itself in two concepts that are mostly used interchangeably and confused although they refer to two different stages. However, it is thought that service co-production is a concept dependent on service co-creation and is the next process of service co-creation. Based on this idea, the aim of this study is to test the effect of co-creation on co-production. In addition, the impact of co-creation on co-production is evaluated in terms of each dimension of co-creation. In this context, the study was designed as causal quantitative research in order to test the hypotheses put forward in the conceptual framework. According to the results of the research, it is seen that experiential, personal and relational value co-creation perceptions have a positive and significant effect on the value co-production perception. Perceptions of interactional and economic value co-creation, on the other hand, do not have a statistically significant effect on the perception of value co-production.

Keywords: Co-creation, Co-production, Services, Value Perception

HİZMETLERE KATILIM SÜRECİNDE ALGILANAN BİRLİKTE DEĞER YARATMA ALGISININ, BİRLİKTE DEĞER ÜRETME ALGISINA ETKİSİNİN DEĞERLENDİRİLMESİ

Öz

Ortak yaratıcı rolüne sahip olan tüketicinin ortak üretici olarak birçok rolü de yerine getirdiği ve tüketicilerin hizmetleri birlikte yaratmasının bir sonraki sınırının hizmetlerin birlikte üretilmesi olduğu söylenebilmektedir. Ortak yaratıcı ve ortak üretici olarak hizmetlere katılım, iki aşaması da farklı olmasına rağmen çoğu zaman birbiri yerine kullanılan ve karıştırılan kavramlar olarak karşımıza çıkmaktadır. Oysaki hizmet üretiminin hizmetin birlikte yaratılmasına bağlı bir kavram olduğu ve hizmet yaratımının bir sonraki süreci olduğu düşünülmektedir. Bu düşünceden yola çıkılarak bu çalışmanın amacı, ortak yaratmanın ortak üretim üzerindeki etkisini test etmektir. Ayrıca ortak yaratmanın ortak üretim üzerindeki etkisi, ortak yaratmanın boyutları açısından değerlendirilmektedir. Bu boyutlar; deneyimsel, etkileşimsel, kişisel, ekonomik ve ilişkisel boyutlar olarak ele alınmıştır. Çalışma, kavramsal çerçevede ileri sürülen hipotezleri test etmek amacıyla nedensel nicel araştırma olarak tasarlanmıştır. Araştırma sonucuna göre deneyimsel, kişisel ve ilişkisel değer birlikte yaratma algılarının, değer ortak üretimi algısı üzerinde pozitif ve anlamlı bir etkiye sahip olduğu görülmektedir. Etkileşimsel ve ekonomik değer ortak yaratımı algıları ise değer ortak üretimi algısı üzerinde istatistiksel olarak anlamlı bir etkiye sahip değildir.

Anahtar Kelimeler: Ortak-Yaratma, Ortak-Üretim, Hizmetler, Değer Algısı.

¹ Doç. Dr., Bandırma Onyedil Eylül Üniversitesi, Ö.S. Uygulamalı Bilimler Fakültesi, haydin@bandirma.edu.tr, Orcid: 0000-0002-5581-7216

¹ Doç. Dr., Bandırma Onyedil Eylül Üniversitesi, Ö.S. Uygulamalı Bilimler Fakültesi, oyilmaz@bandirma.edu.tr, Orcid: 0000-0002-8207-8682

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Introduction

Nowadays the service sector accounts for about “70 percent of GDP in developed economies. In emerging economies and low-income countries, the share of the service sector is also increasing rapidly, albeit from lower levels” (Owusu, Szirmai & Foster-McGregor, 2020: 2). The success of service businesses in competition depends on customer satisfaction. A 1% increase in customer satisfaction raises the return on investment with a 10% rise in customer loyalty. In addition, acquiring new consumers is more costly than retaining old customers, and a 5% increase in retaining existing customers leads to a 25% to 125% rise in profits (Koç, 2016). The share of the service sector in national income is around 65% in Turkey. Considering all these, it can be said that the services and the customer satisfaction they provide are important for the development of the economy. It is thought that one of the strategies to be implemented by businesses in raising customer satisfaction with services is “participation in services”. Since the beginning of the 21st century, market structures have changed significantly, and consumers’ participation in the services they get has risen in the form of co-creation. Consumer participation in the service creation process has turned the consumer into prosumer/coproducer. The consumer as a co-creator also produces some values in the marketplace through consumption (Dedeoğlu, 2010: 18). These created values can contribute to the initiation of a strong communication, interaction, and experience process between the business and the consumer and to the formation of economic and individual services with consumer participation. In recent years, customers have been radically changing the dynamics of the market, and the market has now become a forum where consumers play an active role in creating value and competing. These developments reveal how important customer participation is in the service dimension (Chan et al., 2010).

In today’s world where services are extremely important, it is crucial for businesses to focus especially on two main goals in terms of service participation in order to enhance customer satisfaction and gain competitive advantage. One is co-creation, and the other is co-production. Consumers participating in the value co-creation process provide many benefits in the market such as image and experience (Dedeoğlu, 2015: 26). Consumers providing such benefits create, in a sense, relational, personal, economic, interactional, and experiential values. Consumer participation in various business processes for the production and delivery of services can be defined as co-production. For example, performing one’s own services and transforming raw materials/semi-finished products into finished products is part of the service production process. Goodwin and Radford (1993) refer to participation as the consumer’s ability to perform service delivery throughout the service experience. In this context, it can be said that participation is linked to self-efficacy, and individuals’ interactional, personal, relational, experiential, and economic abilities account for participation. The consumer with the co-creator role fulfills many roles in line with his/her abilities as a co-producer. It is known that the next frontier of consumer co-creation of services in competitive effectiveness is service co-production (Bendapudi & Leone, 2003). The consumer engaged in co-production produces a number of values in informational, attitudinal, and actionable terms. Thus, the consumer contributes to businesses in many stages from service design to production.

According to above mentioned, this study tries to measure the effect of consumer perception of value co-creation on consumer perception of value co-production in participation in services. Based on the obtained results, various recommendations for the literature as well as for businesses are presented.

1. THEORETICAL FRAMEWORK

Consumer participation, whose conceptual foundations emerged at the Nordic School over 30 years ago, was first used as a concept by Appelbaum in 2001 (Buran & Koçak, 2019: 277). Customer participation is often defined as “the extent to which customers provide or share information and get involved in service production, and these inputs result in meaningful and cooperative contributions to the service process” (Zhao, Yan & Tat Keh, 2018: 1205).

One of the best examples is the global shoe brand Nike offering its customers the opportunity to design the shoes they want on its website. Saying “customize your shoes” with the slogan “millions of options with you”, Nike directly includes its customers in the product creation process through digitalization. This enables the emergence or perception of an experiential value that is personalized and makes one feel special. As a result, the consumer admit to pay more for the product s/he creates than s/he would normally pay for Nike shoes. In this sense, economic value is also created. Participation takes many forms, from co-creation to co-production.

The term co-creation refers to a solution process for service failures involving the application of special skills and knowledge (Dong et al., 2008). It also takes the “service” dimension with such forms engaged in by consumers as online banking, video creation (e.g., YouTube), photo sharing (e.g., Instagram), and content creation on social media (e.g., Facebook, LinkedIn, Google+). Co-creation is the starting point of participation in service while co-production is its end point. With this in mind, it can be said that the consumer who is in the position of a co-creator becomes a co-producer (Claycomb, Lengnick-Hall, & Lawrence, 2001; Auh et al., 2007: 361; Ahmad, 2016). In other words, customers as co-producers are perceived by businesses as active partners shaping service production (Bendapudi & Leone, 2003). Co-production takes place at the service production stage, and in this context, it can be defined as the mass customization process in which customers participate in service production (Morelli, 2009).

Co-creation and co-production are frequently used interchangeably and are often confused (Vargo & Lusch, 2004; Payne et al., 2009). It can be said that service co-production is a concept related to service co-creation, and they are intertwined. Although they are interrelated, there are also some differences between them (Ballantyne & Varey, 2006). Co-creation continues from the customer’s initiation of interaction with the business to the final consumption stage. Co-production continues from the pre-production stage to the production stage (Etgar, 2008). Co-production, which has begun to incorporate customers in the production process, is defined as the earliest form of co-creation (Quintana, 1984; Ramirez, 1999). In this context, it can be said that co-production is a process after co-creation.

Co-production behavior (Etgar, 2008; Lim & Moufahim, 2011; Chen, Tsou, & Ching, 2011) and co-creation behavior (Verhoef, Reinartz, & Krafft, 2010; Shaw, Bailey, & Williams, 2011; Lee, 2012; Cabiddu, Lui, & Piccoli, 2013) are often addressed in the marketing and tourism literature. In these studies, researchers explore the precursors of co-creation and co-production, their competitive advantages, and customers’ thoughts and feelings about the process.

There is still some confusion about these two concepts, and it is difficult to make a clear distinction between them. One of the reasons for this may be differences in sectoral services. For example, it is thought that the co-creation and co-production processes cannot be separated from each other in health services. This is because health services are considered to be more intense, coordinated, and intangible than other services. In other words, customer participation in these services is regarded more compulsory. On the other hand, it seems easier to distinguish between the

two concepts in a simpler service like consulting, since the customer's participation in service is not so necessary. Given their confusion, this study draws attention to gaps in the literature and investigates the impact of co-creation on co-production in the context of general services. Thus, it is revealed that co-production is the next stage of co-creation.

2. METHOD

In this section, it will be tried to give information about the purpose, model, hypotheses, data collection process and tools of the research.

2.1. Research Purpose and Model

This study aims to measure the effect of consumers' co-creation perceptions on their co-production perceptions in the service sector. In this context, the study was designed as causal quantitative research in order to test the hypotheses put forward in the conceptual framework. The models and hypotheses put forward in the study are shown in Figure 1.

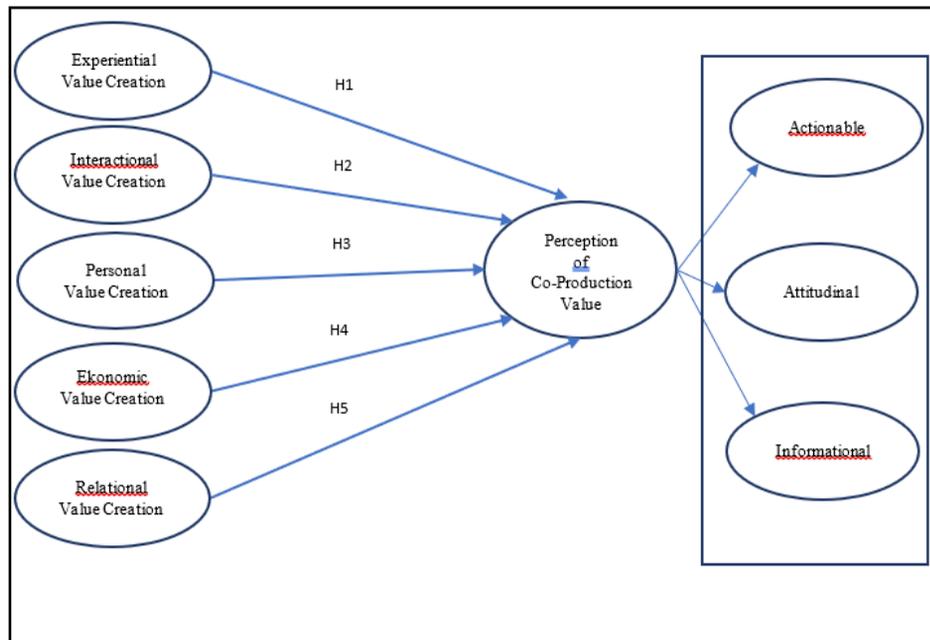


Figure 1. Research Model and Hypotheses

Co-creation approach improves the empathy between producers and consumers and can also create interactive and communicative values (Vega-Vázquez et al., 2015). In this regard, as seen in Figure 1, relational value creation, personal value creation, economic value creation, interactional value creation, and experiential value creation stand as important elements of the co-creation process (Bendapudi & Leone, 2003). The co-creation of services can also contribute to the co-production of post-purchasing informational, attitudinal, and actionable processes for the consumer (Groth, 2005; Auh et al., 2007; Chen & Raab, 2017). At this point, it can be said that the consumer experiences an “informational” process by searching for the service and an “attitudinal” process by recommending it to others. In addition, it can be said that “actionable” participation process is experienced to ensure higher quality purchases. In this regard, efforts in the co-creation process affect the post-purchase co-production process (Sawhney et al., 2005; Fuller, 2010; Bilgram et al., 2011; Ranjan & Read, 2016). Accordingly, it can be thought that the co-created service perception turns into co-produced service perception. The relevant hypotheses are as follows:

H1: The perception of interactive value creation affects the perception of co-production positively and significantly.

H2: The perception of personal value creation affects the perception of co-production positively and significantly.

H3: The perception of economic value creation affects the perception of co-production positively and significantly.

H4: The perception of relational value creation affects the perception of co-production positively and significantly.

H5: The perception of experiential value creation affects the perception of co-production positively and significantly.

2.2. Population and Sample

The population of the study consists of individuals participating in the creation (design and formation, etc.) and production of various services. Since the number of individuals constituting the population could not be determined exactly and the study model was an exploratory one, data were collected through convenience sampling, a non-random sampling method. The online survey form was e-mailed to 500 participants between February and March 2021, and 347 responses were received.

2.3. Data Collection Tool and Pre-Tests

The survey technique was used for data collection. The created survey form consists of three parts.

The first part contains six multiple-choice questions prepared to measure the participants' descriptive characteristics such as age, gender, and marital status. The second part includes a scale consisting of 19 five-point Likert-type questions prepared to measure the participants' perceptions of value co-creation. The last part is composed of 14 five-point Likert-type questions prepared to measure the participants' perceptions of value co-production. The questions in the form and the sources they were taken from are shown in Table 1.

Table 1. Scale Statements

Co-Creation Value		
Dimension	Item	Reference
Interactional	I would like to continue giving my contribution to co-creation process. (In1)	Agrawal, A. K., & Rahman, Z. (2019)
	My involvement with firm and other customers makes the service interaction more enjoyable. (In2)	
	I like to exchange information and interpersonal exchanges with firm and other customers. (In3)	
Personal	I had an impact on the degree to which my preferences were met. (Pe1)	
	Co-creation process provides me with feelings of worthwhile accomplishment. (Pe2)	
	I derived satisfaction from influencing e-product/service design and development. (Pe3)	
	I had control over the quality in online co-creation process. (Pe4)	
Economic	I get higher quality of service. (Ec1)	
	I get better prices than others for efforts I made. (Ec2)	
	Online participation helps me get more personalized solutions to my need. (Ec3)	
Relational	Participation in service helps me develop proximity with the service provider. (Re1)	
	I derive satisfaction from increasing firm and other participants' knowledge (Re2)	
	I can influence other people's knowledge of brand matters. (Re3)	
	I can enhance my status/reputation as an expert. (Re4)	
	I can receive relational approval from the service provider. (Re5)	Chan, K. W., Yim, C. K., & Lam, S. S. (2010).
Experiential	I enjoy the use of my skills and knowledge. (Ex1)	Agrawal, A.K. & Rahman, Z. (2019)
	I enjoy immersion in exciting new information or services. (Ex2)	
	I enjoy getting hedonic experiences. (Ex3)	Kohler, T., et all. (2011).
	I enjoy getting usage experiences. (Ex4)	
Co-Production Value		
Actionable	I helped the company with those things that are required (Ac1)	Groth, M. (2005).
	I intervene when I feel something is not right. (Ac2)	Chen, S. C., & Raab, C. (2017).
	I openly discuss questions and concerns with the company employee/staff. (Ac3)	
	I ask questions if I don't know how to get a service. (Ac4)	
	I do things to make company's employee/staff. Job easier (Ac5)	Auh, S., Bell, S. J., McLeod, C. S. & Shih, E. (2007).
Attitudinal	I try to be cooperative with the company employee.(At1)	Chen, S. C., & Raab, C. (2017).
	I am friendly to the company employee. (At2)	
	I respect the company employee. (At3)	
	I help new company employee when he/she seems uncertain (At4)	Cheung, M.F., & To, W.M. (2011).
	I am willing to tell new customers who do not know where to queue. (At5)	
Informational	I openly discuss my needs with the staff/employee to help him/her deliver the best possible services.) (Inf1)	Auh, S., Bell, S. J., McLeod, C. S., & Shih, E. (2007).
	I read reviews of other customers about the company (Inf2)	Chen, S.C., & Raab, C. (2017).
	I ask people I know for their opinions about the company (Inf3)	
	I spend time searching for information about the company (Inf4)	

As the original language of the statements in Table 1 was English, they were adapted into Turkish first. At this stage, the statements were translated into Turkish by a translator who knew both languages and had a command of the construct to be measured. At the second stage, the scales that had been translated into Turkish were retranslated back into English, the original language, by another translator for a comparison to be made between the original and the translated statements. The Turkish statements that were found to be consistent with the original statements were examined by three experts who had a PhD degree in their field, and the scales were optimized by ensuring the retranslation validity of the statements for the desired measurement. The survey form prepared with the finalized scales was first administered to five different people who were likely to be included in the population and had different educational attainments, and during the scale administration, the

participants were asked whether there were any statements they did not understand. Since the statements in the scale form were thought to be understandable by the individuals in the population based on the answers received, the administration was started without making any changes in the form.

3. FINDINGS

3.1. Descriptive Statistics

Descriptive data for 347 participants in the study are shown in Table 2.

Table 2. Descriptive Statistics for Participants

Gender	Freq.	Percentage	Marital Status	Freq.	Percentage
Male	159	45.70	Single	70	48.87
Female	188	54.30	Married	177	51.13
Profession	Freq.	Percentage	Age	Freq.	Percentage
Student	39	11.24	Between 18-26	63	18.10
Government officer	86	24.78	Between 27-35	91	26.24
Tradesman	33	9.51	Between 36-44	74	21.27
Worker	38	10.95	Between 45-53	75	21.72
Housewife	30	8.65	54 and above	44	12.67
Self-employment	47	13.54			
Retired	38	10.95	Monthly Income (Turkish Liras-TL)	Freq.	Percentage
Other	36	10.37	1500 TL or less	46	13.12
Education	Freq.	Percentage	Between 1501-2500 TL	53	15.38
Primary-Secondary School	42	12.22	Between 2501-5000 TL	88	25.34
High School	80	23.08	Between 5001- 7000 TL	99	28.51
Undergraduate	144	41.62	7001 TL or above	61	17.65
Graduate-Post Graduate	81	23.08			

As shown in Table 2, the majority of the participants (54.30%) are women. In terms of marital status, 51.13% are married, and 48.87% are single. The highest income group is the 5001-7000 TL income group (28.51%). When it comes to age, the participants in the 27-35 age group take the first place (26.24%).

3.2. Selection of the Analysis Method and Model Tests

It was decided to use structural equation modeling (SEM) in testing the model and hypotheses. "It can be said that the main reason SEM is preferred in scientific research is that it clearly considers the measurement errors related to the observed variables in a given model. SEM, which enables researchers to develop, predict, and test multivariate complex models, also considers the direct and indirect effects of the variables in the given model (Yılmaz, 2016: 153). SEM also allows testing the hypotheses and the construct validity of the scales simultaneously.

Prior to testing the relevant hypotheses, extreme values in the data were determined in the first place. For this purpose, Mahalanobis distance analysis, which is one of the most frequently used methods for measuring the distance between objects (De Maesschalck, Jouan-Rimbaud, & Massart, 2000: 2), was applied to the dataset via SPSS 22 package. As a result of the analysis applied at the 0.99 level, 8 data were seen to involve "multivariate extreme values" and were excluded from the dataset before the analysis. As many multivariate methods such as SEM require complete data, the data were secondly subjected to missing data analysis. For this purpose, missing data in 33 Likert-type questions were checked, and 44 (0.04%) missing data were determined. Missing data were estimated with the expectation-maximization algorithm. "The EM algorithm consists of two major steps: an expectation step, followed by a maximization step. The expectation is with respect to the unknown underlying variables, using the current estimate of the parameters and conditioned upon the observations. The maximization step then provides a new estimate of the parameters. These two steps are iterated until convergence" (Moon, 1996: 47).

Before proceeding to the hypothesis tests with the completed data, the estimator to be used in SEM was selected lastly. As a result of the statement-based and multiple normality tests performed on the data, it was understood that the data did not meet the univariate and multivariate normality conditions. In addition, due to the low number of collected data compared to the population, it was decided to analyze the model tests using SEM based on the partial least squares method. PLS is a useful structural equation estimator in cases where the sample size is limited though it fails to meet both univariate and multivariate normality and has no assumptions about data distribution such as normality and homogeneity. The main purpose of the method is to maximize the explained variance of the dependent variable while minimizing the error variances (Kwong & Wong, 2013; Hair et al., 2014).

PLS-based SEM, like the other one, consists of two stages. The scales are tested for reliability and validity at the measurement model stage (first stage), which explains how each construct is measured with related statements. When all variables meet the reliability and validity criteria in the measurement model, the used structural model and the hypotheses are tested (second stage) to show how the latent variables are related to each other (Alshibly, 2015: 67).

3.3. Findings Regarding the Measurement Model

At this stage, in which the relationships between variables and indicators were examined, internal consistency reliability, convergent validity, and discriminant validity were evaluated with the statements obtained regarding the measurement model subjected to confirmatory factor analysis via SmartPLS 3.3.3 statistical package. As a result of the first analysis, 2 statements (At3, At5) in the Attitudinal dimension of the Co-Production scale and 1 statement (Ac1) in the Actionable dimension were excluded from the measurement because their loading values were low (maximum 0.275), and the analysis regarding the measurement model was repeated. The obtained construct validity and reliability values are shown in Table 3.

Table 3. Values Regarding the Measurement Model

Scale	Structure	Item	Coefficient	AVE	CR	α	rho_A
Co-Creation Value	Interactional	In1	0.786	0.648	0.846	0.730	0.737
		In2	0.804				
		In3	0.824				
	Personal	Pe1	0.733	0.528	0.818	0.706	0.710
		Pe2	0.716				
		Pe3	0.714				
		Pe4	0.743				
	Economic	Ec1	0.831	0.644	0.844	0.728	0.745
		Ec2	0.765				
		Ec3	0.810				
	Relational	Re1	0.756	0.520	0.843	0.770	0.797
		Re2	0.658				
		Re3	0.749				
		Re4	0.624				
		Re5	0.802				
	Experiential	Ex1	0.833	0.648	0.880	0.818	0.822
Ex2		0.836					
Ex3		0.756					
Ex4		0.792					
	Actionable (Second Order)	-	0.862	0.589	0.851	0.769	0.786
	Attitudinal (Second Order)	-	0.893	0.641	0.843	0.721	0.732
	Informational (Second Order)	-	0.936	0.570	0.840	0.745	0.756
Co-Production Value	Actionable	Ac2	0.818	0.589	0.851	0.769	0.786
		Ac3	0.807				
		Ac4	0.759				
		Ac5	0.679				
	Attitudinal	At1	0.794	0.645	0.843	0.721	0.732
		At2	0.845				
		At4	0.762				
	Informational	Inf1	0.679	0.570	0.840	0.745	0.756
		Inf2	0.839				
		Inf3	0.688				
Inf4		0.801					

It is stated that in PLS-SEM analysis, factor loadings should not be less than 0.7 (Hair et al., 2014), and the loading values of 0.6 and above are acceptable values (Yana, Rusdhi, & Wibowo, 2015). As shown in Table 3, the loading values for all statements are above 0.6.

The Cronbach’s alpha coefficient, composite reliability (CR), and rho A values are used in the PLS algorithm for the internal consistency reliability of the constructs. To ensure internal consistency validity, the values should be above 0.70 (Hair et al., 2014). However, it is necessary to investigate the discriminant validity of the constructs along with their internal reliability. Fornell and Larcker (1981) suggest that the average variance extracted (AVE) values should be above 0.50, and the square roots of the AVE values should be higher than the correlation values between the latent constructs in order to ensure the discriminant validity of the constructs. As shown in Table 3, all of the AVE values are above the critical value of 0.50. In addition, the calculations indicated that the square roots of the AVE values are higher than the correlation values between the latent constructs. This makes it evident that the established measurement model provides internal consistency reliability and discriminant validity.

3.4. Structural Model Analysis and Hypothesis Testing

The results for the structural equation model created to evaluate the research hypotheses are shown in Table 4.

Table 4. Model Results

Hypothesis	Standardized β	t value	p	VIF	f ²	Q ²	R ²
Experiential→ Co-Production Value (H1)	0.158	2.012	0.044	2.380	.021	0,241	0,497
Interactional→ Co-Production Value (H2)	0.044	0.704	0.482	2.234	.002		
Personal→ Co-Production Value (H3)	0.300	3.972	0.000	3.122	.057		
Economic→ Co-Production Value (H4)	0.019	0.262	0.793	2.459	.000		
Relational→ Co-Production Value (H5)	0.278	4.776	0.000	2.425	.063		

* Bootstrapping: 1000 samples

Table 4 shows that the perceptions of experiential, personal, and relational value co-creation have a positive and significant effect on the perception of value co-production ($p < 0.05$). The perceptions of interactional and economic value co-creation, on the other hand, have no statistically significant effects on the perception of value co-production ($p > 0.05$). While a 1-unit increase in the consumers' perception of experiential value co-creation raises their perception of value co-production by 0.158 units, a 1-unit increase in their perception of personal value co-creation raises their perception of value co-production by 0.300, and a 1-unit increase in their perception of relational value co-creation increases their perception of value co-production by 0.278 units. Approximately 49.7% of the variance in the consumers' perception of co-production is due to the variance in their perceptions of experiential, personal, and relational value co-creation ($R^2 = 0.497$).

CONCLUSION AND RECOMMENDATIONS

In this study investigating the effect of the perception of co-creating service value on the perception of co-producing service value, most of the participants were married (51.13%) and women (54.30%). Most of the participants (28.51%) were in the 5001-7000 TL income group and in the 27-35 age group (26.24%).

The study found no effect of consumers' perception of interactional (interactive) and economic participation on the process of value co-production. However, it was determined that their personal, experiential, and relational participation have a significant effect on participation in service production. This is also consistent with the literature (Lusch & Vargo, 2006). In this context, the personal characteristics or personal value co-creation perceptions of consumers participating in the service value co-production process have a significant positive effect on service value production ($p < 0.05$; β : 0.300). It can be said that consumers' experiences during service formation or design, or their perceptions of experiential value co-creation ($p < 0.05$; β : 0.158) and

their relations with the business, or their perceptions of relational value co-creation ($p < 0.05$; β : 0.278) have an important role in co-producing service value. The study revealed that the customers participating in the value co-creation process are aware of their responsibilities and are willing to cooperate and improve their relations with the business and to accept the guidance of the employees (Hsiao et al., 2015: 47). Moreover, customers create their own consumption experiences by participating in the production of the products they consume or of the services they benefit from (Xie et al., 2008: 110). In this regard, the effect of personal, relational, and experiential value co-creation on co-production can be supported by the literature.

However, contrary to the literature (Chathoth et al., 2016: 232), the present study found out that the fact that the service provided by the business during the production of services is economic or the consumers' perception of co-creating economic value ($p > 0.05$; β : 0.019) and the existence of mutual interaction with the business, or the consumers' perception of co-creating interactional value ($p > 0.05$; β : 0.044) do not have an important role. This result can be attributed to the fact that the survey was administered in the pandemic period when interaction was not possible. The co-creation process forces businesses and product designers to understand the underlying causes of consumers' emotions and behaviors. Thus, this concept brings dialogue among all participants to the fore and creates a process where everyone has the right to speak and it also ensures co-production for a common purpose (Gürbüz, 2018: 14). In this sense, the positive effect of the perception of value co-creation on the perception of value co-production is also supported.

Contributions of the study to the literature are as follows:

- This is a quantitative study, which determines to what extent the perception of value co-creation has an effect on the perception of value co-production. In this context, attention was drawn to the importance of the dimensions of co-creation.
- The study highlights that although the concepts of co-creation and co-production are often used interchangeably, they are different from each other and diverge in the dimension of co-creation. Hence, the important contribution of the study is that it clarifies that the next process of participation in value creation is participation in value production.
- This is a pioneering study as there is no research in the literature that suggests that value co-creation plays a critical role in value co-production.

Recommendations of the study for businesses are as follows:

- The determination of the dimensions effective in the transition from co-creation to co-production will guide the marketing strategies businesses develop. Since customer value is possible with the customer's experiential, personal, and relational participation in service, it is important that companies encourage consumers to participate more. They need to focus more on developing self-service technologies (SSTs), online services, and virtual communities for participation in the creation of experiential value. Businesses may contribute to the production of more effective services through experiential value by sharing their content, stories, and games with their customers and enabling them to make comments. They may support their customers' participation by creating various platforms. They may enable customers to generate participation value by supporting the value creation process through allowing them to get in contact and share experiences with other customers and assist them in decision making process. Participation in service through personal values means that the individual has a sense of accomplishment in participation. At this point, businesses should develop strategies to support the participation of customers in service through their personal characteristics and encourage them to participate in services that are suitable for their qualifications. The study also found out that, customers do not feel the need to be involved in an

economic effort and an interactive activity in order to produce service value. This result can be attributed to the fact that the survey was administered during the pandemic period. This is because mutual interaction and economic service (affordable prices, etc.) may not be expected in periods of health crises. In addition, the fact that experiential value has a lower effect than other dimensions. This result can be attributed to the feeling of experience occurring less in services under pandemic conditions. It can be said that the consumer who participates in experiential value creation less will participate in service value production less as well.

- Social capital is also needed for co-creation and co-production. For this reason, citizens' awareness should be raised, and they should be encouraged to participate more effectively. Social media events may be used as a tool to trigger customers' motivation to participate.

Recommendations for future work are as follows:

- Future research may investigate how employees or internal customers contribute to the creation of service value.
- Differences in the effects of the dimensions across sectors may be investigated to highlight that the distinction between the concepts may show sectoral differences.
- Considering that consumers' participation in services on digital platforms has led to the concept of online consumer engagement, because of that it is recommended to address online customer engagement as well.
- Given that the study's sample only included a small number of participants, a more in-depth study might be carried out using a larger sample and covering dimensions thought to be crucial for value co-creation.
- The study addressed the effect of co-creation based on its dimensions. Future studies may evaluate value co-production based on its dimensions, too.
- The study focused on the start and end of service, corresponding to co-creation and co-production. The study may also be applied in different participation processes such as co-designing.
- A future qualitative study may involve in-depth interviews and evaluate participation in services in different dimensions.

The most important limitation of the study is that a limited sample was used, and the study cannot be generalized to different sectors, product groups, countries, and consumers

As this is a pioneering study addressing the effect of co-creation on co-production, evaluation was only based on the dimensions of co-creation (input variable). Another particularly significant limitation may be the absence of evaluation of the aspects of value co-production.

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