

Experience Value as a Mediator Variable for Co-Creation Relationships on Alumni Loyalty: Using the SEM-PLS Approach

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Article Info	Abstract
Keywords: Alumni loyalty; Co-creation; Experience value	Purpose – This marketing research aimed to analyze the effect of co-creation and experience value on students loyalty as the customers of universities.
JEL Classification: I20, I21, I23	Methodology – The survey was conducted on 278 alumni who came from five private universities in Palembang. The data were collected through online form from each university's alumni unit. The validity and reliability had been met. Data analysis was carried out by partial least square in structural equation model approach (SEM-PLS).
DOI: 10.33830/jom.v18i1.1311.2022	Findings – The results showed that co-creation positively and significantly affected on experience value and alumni loyalty. Students who gain experience value from lectures could interact and could active on campus. High interaction among students, lectures, and campus showed a strong co-creation level and better experience value, impacting alumni loyalty to recommend and care about their alma mater. There should be provided space to build the campus through a strong alumni engagement. The more experience students have on campus, the more they care about their alma mater.
Article History Received : February 14, 2021 Accepted : May 25, 2022 Publish : June 15, 2022	Originality – This study observed the experience of alumni who were more objective in providing their perceptions because they were no problem of interest. Some researchers used students loyalty measure that was less objective because there still an interest as a student.

1. Introduction

University alumni have a unique and strategic bargaining position despite being inactive in higher education management because their experience and strong ties to the alma mater provide input for advancement (Gunarto et al., 2018a; Gunarto et al., 2018b). Their loyalty to higher education facilitates growth, competitiveness, performance, and material and non-material profitability (Brown & Mazzarol, 2008; Helgesen & Nettet, 2007; Hennig-Thurau, Langer, & Hansen, 2016; Iskhakova et al., 2017). Furthermore, despite their indirect involvement in higher education management, they can be empowered to build their alma mater (Gunarto & Hurriyati, 2020; Gunarto et al., 2018a). Loyal customers are important company assets because acquiring new ones cost more than five to six times as retaining the existing ones (Griffin, 2002). Several

private universities have experienced a large decline in students, and most have difficulties getting new admissions (Gunarto et al., 2018a).

There are several studies on student loyalty, although the loyalty model is not agreed upon. A study related to the topic from several German universities showed that the impact of service quality is twice more than commitment (Hennig-Thurau et al., 2016). Furthermore, some studies stated that student loyalty is influenced by satisfaction (Alves & Raposo, 2007; Giner & Peralt Rillo, 2016; Hennig-Thurau et al., 2016), college image (Aritonang, 2014; Taecharungroj, 2014), trust (Aritonang, 2014; Heo & Lee, 2016), commitment (Bergamo et al., 2012; Heo & Lee, 2016), reputation (Gunarto et al., 2016), and co-creation (A. M. Dean et al., 2016; D. Dean et al., 2016; Giner & Peralt Rillo, 2016; Ribes-Giner et al., 2016).

Student participation in co-creation increases satisfaction and loyalty to educational institutions (Giner & Peralt Rillo, 2016). Co-creation creates value, for example, through direct interactive services from social networks like Facebook between customers and higher education institutions (Fagerstrøm & Ghinea, 2013). Therefore, alumni are key contributors to value creation for private universities through co-creation and value experience (Gunarto et al., 2018a). Educational services are experiential services actively involving higher education institutions and alumni (Khanna, Jacob, & Yadav, 2014).

Higher education institutions should view marketing as an isolated set of actions and dynamic operational activities with several applications and aspects conducted in an integrated manner (Fagerstrøm & Ghinea, 2013). They should adapt to a complex global environment, requiring a marketing role to create a brand identity and challenges to develop a joint brand (A. M. Dean et al., 2016; D. Dean et al., 2016).

Co-creation in marketing implies customers' active involvement and collaboration with suppliers to create customer value. This is not a new concept (Grönroos, 2011), but it becomes appropriate due to the changing market conditions. Furthermore, it creates good customer value, which enhances alumni loyalty. Some studies on loyalty in higher education mostly used active student respondents (Akbar, 2013; Aritonang, 2014; Gruber et al., 2012; Yu & Kim, 2008), limited to one university or study program (Iskhakova, 2020; Iskhakova, Hilbert, & Hoffmann, 2016), while a few used alumni as respondents (Mercatoris, 2006; I. Snijders et al., 2019). The studies on higher education marketing are still in the early stages and need to explore problem identification and strategic perspective (Hemsley-Brown & Oplatka, 2006). This study aimed to analyze the co-creation of alumni's experience value and loyalty in private universities using the SEM-PLS model approach. Furthermore, it aimed to develop a customer loyalty model in higher education through constructs and dimensions of alumni loyalty. It also provided practical and empirical strategies for tertiary institutions to retain and improve students. Currently, Private Higher Education (PHE) lacks a strategy on customer satisfaction (alumni), focusing on increasing the number of students and reputation. Therefore, this study will help the PHE increase experience value as a student purchase.

1.1 Relationship Co-creation with Experience Value

An increase in students' involvement in campus activities will enhance their experience. A collaboration between students and lecturers in teaching and research will increase the experience value. Figure 1 shows the relationship between co-creation and student experience scores.

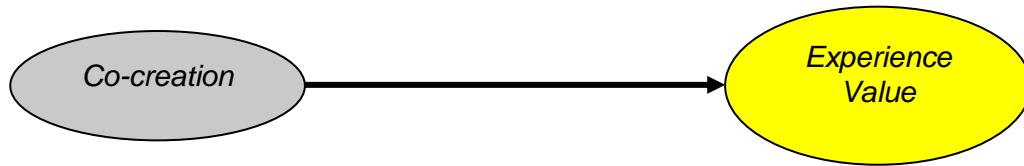


Figure 1. Co-creation relationship with experience value

Active collaboration between students and lecturers increases student involvement and experience value. Furthermore, effective co-creation increases the experience value (A. M. Dean et al., 2016; D. Dean et al., 2016; Elsharnouby, 2015; Mathis, Kim, Uysal, Sirgy, & Prebensen, 2016). The first hypothesis was that high co-creation positively affects the experience value.

1.2 Relationship between Co-creation and Alumni Loyalty

Co-creation is a new context in the business world that unites all stakeholders (Akbar, 2013; Ribes-Giner et al., 2016). This generates student loyalty as a long-term relationship with higher education institutions. Several studies found that co-creation indirectly affects loyalty, but both have a relationship, as presented in Figure 2.

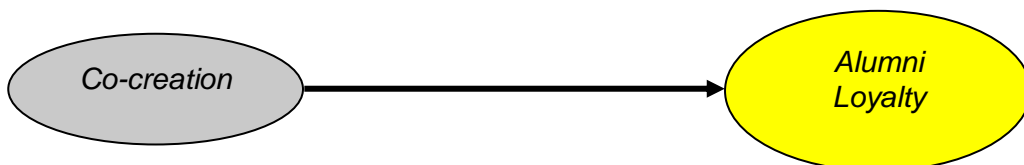


Figure 2. Co-creation relationship with alumni loyalty

Figure 2. exhibits that joint creation between students and lecturers or higher education institutions creates experience values that impact satisfaction and loyalty. Although some studies indirectly explained the impact of co-creation on loyalty, some stated that its long-term impact is loyalty. Therefore, co-creation creates value and impacts customer loyalty (Cossío-Silva et al., 2016). The second hypothesis was that a higher co-creation increases alumni loyalty to private universities.

1.3 Relationship between Experience Value and Alumni Loyalty

The value of experience is the goods or services purchased by alumni during their time as students at the university. The more experience gained during learning will increase satisfaction which in turn has an impact on loyalty when you are already an alumni. The experience gained during lectures provides student satisfaction, hence strongly influencing satisfaction (Prebensen, Kim, & Uysal, 2016). Figure 3 shows the relationship between experience value and alumni loyalty.

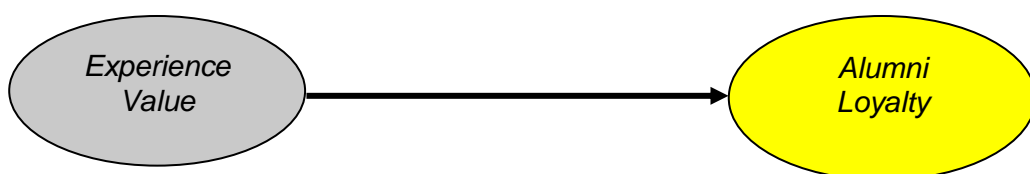


Figure 3. Relationship between experience values and alumni loyalty

Figure 3 shows that the experience value creates student satisfaction and alumni loyalty. Higher experience value increases student satisfaction, impacting alumni loyalty. Therefore, a good experience value increases alumni loyalty (Gunarto, Hurriyati, Disman, & Wibowo, 2018; Iskhakova et al., 2016). The third hypothesis was that a good experience value increases alumni loyalty in private universities.

The linkages between the variables described above provided the following research framework model in Figure 4.

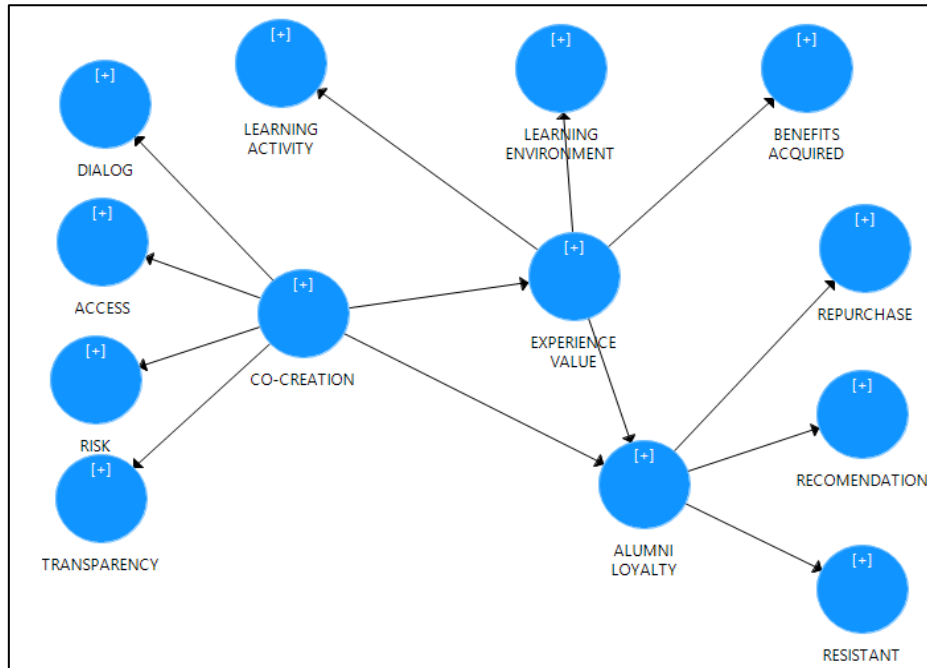


Figure 4. Research conceptual framework

2. Research Method

2.1 Population, Sample, and Data Collection

The study population included alumni from private higher education (PHE) in Palembang City. Five PHE were sampled through simple random sampling for analysis. The data were collected through a survey by distributing online questionnaires on social media of alumni groups and units in each PHE. This was conducted in one week, with 278 respondents who met the minimum sample size to use the structural equation model (Joseph F. Hair et al., 2014; Joe F. Hair, Ringle, & Sarstedt, 2014; Sekaran & Bougie, 2016). However, it is necessary to determine the sample size at least once (Wolf et al., 2013).

2.2 Data Analysis Techniques and Software

The data were analyzed using the partial least squares structural equation modeling approach (SEM-PLS) through the SmartPLS. In general, the SEM model is built using the covariance-based approach (Covariance Based Structural Equation Model or CB-SEM) and variant- or component-based (Variance Based Structural Equation Model or Partial Least Square Structural Equation Model or PLS-SEM). The CB-SEM approach consists of several software-based statistical tools that perform analysis, such as EQS, AMOS, SEPATH, COSAN, and the LISREL program

developed by Jöreskog in 1975, which became the most popular. Consequently, LISREL is sometimes used as a synonym for covariance-based SEM (Gunarto, 2018). Various statistical software were used for PLS-SEM processing, such as PLS-Graph, Visual, Smart, and Warp (Wong, 2016).

Table 1 shows the guidelines used for assessing the validity of reflective and formative indicators for the SEM-PLS model.

Table 1. Rule of thumb for assessing the validity and reliability of reflective indicators

Validity and Reliability	Parameters & Rule of Thumb
Validity:	Validity is met when the <i>outer loading</i> value on the indicator is >
Convergent validity	0.708 for confirmatory research; 0.6-0.7 for exploratory research
Discriminant validity	is acceptable (Joseph F. Hair, Hult, Ringle, & Sarstedt, 2014).
Principled that the manifest variables of a construct should be highly correlated.	
Reliability:	Reliability is met when the value is:
Principled to prove the accuracy and consistency of instruments in measuring constructs.	<ul style="list-style-type: none"> • <i>Cronbach's Alpha</i> > 0.70 for <i>Confirmatory Research</i>, and > 0.60 for <i>Exploratory</i>, or • <i>Composite Reliability (CR)</i> > 0.708 for <i>Confirmatory Research</i>, and 0.60 - 0.70 for <i>Exploratory</i>, and • <i>Average Variance Extracted (AVE)</i> >0.50.

Source: (Gunarto, 2018; Joseph F. Hair et al., 2014; Joe F. Hair et al., 2014; Joseph F. Hair et al., 2014)

The SmartPLS software launched in 2005 became popular due to its free availability to academics and researchers, friendly interface, powerful reporting features (Wong, 2016), and several useful properties in its applications (Joseph F. Hair et al., 2014). Data analysis using SmartPLS was carried out in two stages, namely analyzing the measurement model and then analyzing the structural model.

3. Results and Discussions

3.1 Respondent's description

Table 2. Shows the characteristics of 278 alumni used as respondents

Variable	Categorical	Frequency	Percentage
Gender	Male	127	45.7
	Female	151	54.3
Form of Higher Education	College / Institute	85	30.6
	University	124	44.6
	Academy	66	23.7
	Polytechnic	3	1.1
	Management	109	39.2
	Informatics Engineering	4	1.4
Study program	Mathematics education	49	17.6
	Accounting	75	27
	Others	41	14.7
Total		278	100

Source: Research data, 2020.

The respondents' characteristics were relatively balanced based on gender, with 45.7% men and 54.3% women. All forms of tertiary institutions in Palembang were represented, although only three respondents were from polytechnic. This illustrates that the respondents were proportionally drawn, with the largest number from universities and the smallest from polytechnics. Most of them were from the management program, the largest in Palembang City and Indonesia.

3.2 Building the SEM-PLS Measurement Model

The first step in forming a structural equation model (SEM) was to analyze a measurement model or the outer model in PLS. This explained the specific relationship between latent variables and their respective manifestations. Furthermore, it assessed the validity and reliability of the constructs.

The construct validity and reliability tests are conducted before building a structural equation model for each indicator forming the latent variable. When an operationalized construct is reflective, the validity assessment is conducted by measuring the content's validity (content validity), consisting of convergent and discriminant validity. In contrast, the reliability assessment is conducted by measuring internal reliability through the value of Cronbach's alpha and composite reliability on each construct. When the construct is operationalized formative, the validity assessment is conducted by measuring substantive content, namely comparing the relative weight and finding the t-statistical significance of the construct's indicators (Joseph F. Hair et al., 2014).

3.3 Measurement Model for Co-creation Variable

The co-creation variable measurement model is conducted with a second-order, with the lower order explaining the manifest variables correlated with the construct dimensions (outer loading). The measurement model of the higher-order explains the path coefficient value between the dimensional construct and variables. The co-creation variable's validity and reliability tests were conducted by finding the outer loading value of the second-order model, as shown in Table 3.

Table 3. The value of outer loading in the co-creation variable measurement model

INDICATOR	DIALOG	ACCESS	RISK	TRANSPARENCY	INFORMATION
CC1	0.900				Valid
CC2	0.890				Valid
CC3	0.818				Valid
CC4		0.841			Valid
CC5		0.824			Valid
CC6		0.858			Valid
CC7			0.918		Valid
CC8			0.883		Valid
CC9			0.854		Valid
CC10				0.918	Valid
CC11				0.921	Valid
Cronbach's Alpha	0.839	0.793	0.862	0.817	
CR	0.904	0.879	0.916	0.916	
AVE	0.758	0.707	0.784	0.845	
INFORMATION	Reliable	Reliable	Reliable	Reliable	

Source: Results of Research Data Processing, 2020

The measurement model on the co-creation variable produced the validity and reliability parameters following the rule of thumb. All outer loading values on the manifest variable to the dimensional construct and on the co-creation variable were above 0.7, indicating validity. The validity test of each dimension obtained a Cronbach Alpha and CR value above 0.7 and AVE value above 0.5. This indicated that the convergent validity of the co-creation variable and its manifestations were reliable.

3.4 Measurement Model for Experience Value Variable

The experience value variable measurement model was conducted with a second order. The lower order described the manifest variable correlated with the dimensional construct (outer loading). Table 4 shows the validity and reliability tests of experience value based on the outer loading.

Table 4. The outer loading value in the measurement model for the experience value variable

INDICATOR	LEARNING ACTIVITY	LEARNING ENVIRONMENT	BENEFITS ACQUIRED	INFORMATION
EV1	0.682			Valid
EV2	0.743			Valid
EV3	0.864			Valid
EV4	0.834			Valid
EV5	0.812			Valid
EV6		0.858		Valid
EV7		0.850		Valid
EV8		0.819		Valid
EV9		0.873		Valid
EV10			0.897	Valid
EV11			0.876	Valid
EV12			0.899	Valid
EV13			0.892	Valid
EV14			0.830	Valid
Cronbach's Alpha	0.847	0.872	0.926	
CR	0.892	0.913	0.944	
AVE	0.624	0.723	0.773	
INFORMATION	Reliable	Reliable	Reliable	

Source: Results of Research Data Processing, 2020

The measurement model formation on the experience value variable produced validity and reliability parameter values that met the rule of thumb. All outer loading values on the manifest variable to the dimensional construct and experience value were above 0.7, except EV1. However, it was still acceptable, and all indicators in the experience value variable were declared valid. The validity of each dimension obtained a Cronbach Alpha and CR value above 0.7 and an AVE value above 0.5. This indicated that the convergent validity of the experience value variable and its manifestations was reliable.

3.5 Measurement Model for Alumni Loyalty Variable

The measurement model for the alumni loyalty variable was conducted with a second order. The lower order explained the manifest variable correlated with the construct dimension (outer loading). The measurement model in its higher order explained the path coefficients value between the dimensional construct and variables. The validity and reliability of the alumni loyalty variables were based on the outer loading value, as shown in Table 5.

Table 5. The outer loading value in the alumni loyalty variable measurement model

INDICATOR	REPURCHASE	RECOMMENDATION	RESISTANT	INFORMATION
AL1	0.866			Valid
AL2	0.867			Valid
AL3	0.837			Valid
AL4	0.721			Valid
AL5		0.846		Valid
AL6		0.821		Valid
AL7		0.855		Valid
AL8		0.673		Valid
AL9			0.799	Valid
AL10			0.789	Valid
AL11			0.773	Valid
AL12			0.794	Valid
Cronbach's Alpha	0.841	0.812	0.798	
CR	0.894	0.877	0.868	
AVE	0.681	0.643	0.623	
INFORMATION	Reliable	Reliable	Reliable	

Source: Results of Research Data Processing, 2020

The measurement model formation on the alumni loyalty variable produced validity and reliability parameter values that met the rule of thumb. All extreme loading values on the manifest variable to the dimensional construct and on alumni loyalty were above 0.7. All indicators forming the alumni loyalty variable were declared valid. The validity of each dimension obtained a Cronbach Alpha value and CR value above 0.7 and an AVE value above 0.5. This indicated that the convergent validity of the alumni loyalty variable and its manifestations was reliable.

3.6 Structural Equation Model - Partial Least Square (SEM-PLS) Analysis

A whole structural model was formed after obtaining a measurement model for each variable, as shown in Figure 5.

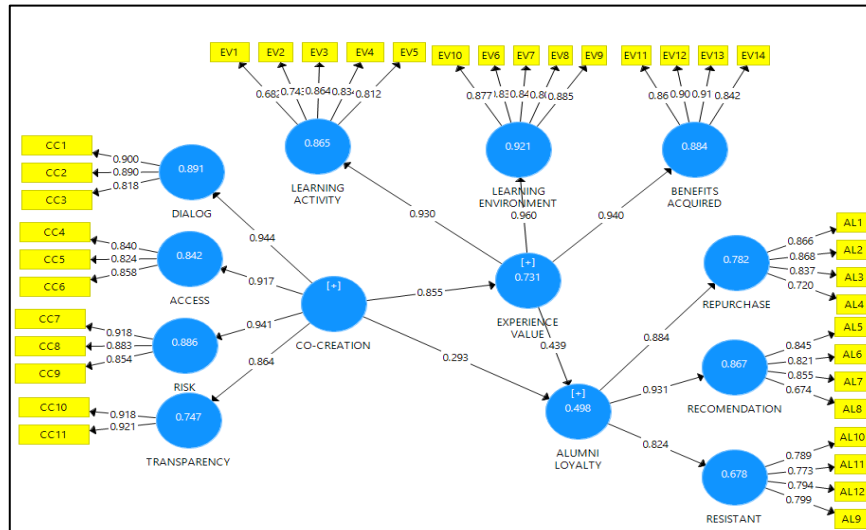


Figure 5. Estimation of the Full Mode

The full model shows the estimation results of the measurement (outer loading) and structural model (inner loading). This includes the path coefficient values of each relationship, showing the independent variable's direct influence on the dependent. The coefficient of determination (R^2) for substructure (1), as the effect of co-creation on experience value, was 0.731. In contrast, the (R^2) for substructure (2), as the effect of co-creation and experience value on alumni loyalty, was 0.678. Table 6 shows the model' test using the bootstrapping step on SmartPLS for the hypothesis.

Table 6. The path coefficients value, t-statistical significance, and p-value

Direct Effect	Sample Original (O)	Sample Mean (M)	Standard Deviation (STDEV)	t- stat	P-values
CO-CREATION -> ALUMNI_LOYALTY	0.293	0.287	0.099	2.947	0.003
CO-CREATION -> EXPERIENCE_VALUE	0.855	0.855	0.025	33.971	0.000
EXPERIENCE_VALUE -> ALUMNI_LOYALTY	0.439	0.444	0.097	4.520	0.000
Indirect Effect					
CO-CREATION -> EXPERIENCE_VALUE -> ALUMNI_LOYALTY	0.376	0.380	0.085	4.424	0.000
Total Effect					
CO-CREATION -> ALUMNI_LOYALTY	0.668	0.666	0.047	14.179	0.000
CO-CREATION -> EXPERIENCE_VALUE	0.855	0.855	0.025	33.971	0.000
EXPERIENCE_VALUE -> ALUMNI_LOYALTY	0.439	0.444	0.097	4.520	0.000

Source: Results of Research Data Processing, 2020

Table 6 shows the coefficient value, t-statistics, and p-value for the direct, indirect, and total effect. Group I (direct effect) showed a direct relationship between co-creation to alumni loyalty

and experience value and experience value to alumni loyalty. These direct relationships were statistically significant because the p-value was below 0.05. In contrast, group II (indirect effect) showed the indirect relationship between co-creation to alumni loyalty through experience scores, which was statistically significant because the p-value was below 0.05. Group III (total effect) showed the direct and indirect effects.

3.7 Relationship between Co-creation and Alumni Loyalty

There was a 0.293 direct effect of co-creation on alumni loyalty, which was statistically significant because the t-count value was 2.947 (above 1.96), with a p-value of 0.003 (below 5%). This showed that higher co-creation in higher education strengthened alumni loyalty. Students with a stronger involvement showed concern about their alma mater. Furthermore, those with higher creations with lecturers or teaching assistants were active in various activities organized by student units and institutions with a direct relationship with the campus. Such alumni have good feedback, recommending others to study at their alma mater and helping the college. Co-creation built-in higher education increases student involvement, impacting alumni loyalty (Carvalho & de Oliveira Mota, 2010; Chen, 2015; Cossío-Silva et al., 2016; I. Snijders, L. Wijnia, R. M. J. P. Rikers, & S. M. M. Loyens, 2019).

Co-creation has short and long-term impacts, including creating experience values that provide student satisfaction in the short term. However, this satisfaction can be through the university image, indicated by its high reputation. The medium-term impact includes trust, which is experienced in the long term through student loyalty. Loyal students or alumni provide good feedback and recommendation to friends or relatives. Furthermore, they might consider further studies or donations when successful.

3.8 Relationship between Co-creation and Experience Value

There was a 0.855 direct effect of Co-creation on experience value, which was statistically significant because the t-value was 33.971 (above 1.96), with a p-value of 0.000 (below 5%). This showed that higher co-creation increased the student experience value. Furthermore, it includes an interactive dialogue involving the ability and willingness to act on both sides (Prahalad & Ramaswamy, 2004). Students with higher co-creation had increased experience value than the traditional approach (Bowden & D'Alessandro, 2011). Co-creation involves the collaborative value between students and tertiary institutions, such as active involvement in teaching and lecturers jointly developing learning. This is not limited to creating products or brands but also through management or other policies. Higher co-creation in a university increases student experience value (Akhilesh, 2017; A. M. Dean et al., 2016; D. Dean et al., 2016). Higher education products for students are different from services or products in other companies, where the services purchased by students have long-term benefits. New alumni experience the value of the campus services as they join the work environment, using the acquired knowledge.

3.9 Relationship between Value of Experience and Alumni Loyalty

There was a 0.439 direct effect of experience value on alumni loyalty, which was statistically significant because the t-value was 4.520 (above 1.96), with a p-value of 0.000 (below 5%). This showed that higher students' experience value in tertiary institutions increased loyalty. The experience acquired during lectures leads to satisfaction. Furthermore, it has long-term effects,

especially when working and applying various valuable experiences. This leads to returning to the alma mater through good feedback or invitations for others to join the school. Following the increased competition, higher education providers should develop and offer quality and satisfying service experiences (Bowden & D'Alessandro, 2011; A. M. Dean et al., 2016; Mathis et al., 2016; Prebensen, Kim, & Uysal, 2016).

3.10 The Role of Experience Value as a Mediator Variable

There was a 0.376 indirect effect of co-creation on alumni loyalty through experience value. This showed a statistical significance because the t-count value was 4.424 (above 1.96), with a p-value of 0.000 (below 5%). This indirect effect value (0.376) was greater than the direct (0.293), indicating that experience effectively intervened in the relationship between co-creation and alumni loyalty. Therefore, higher co-creation increases the experience value, leading to high alumni loyalty in private universities. The effect of co-creation on alumni loyalty was 0.668, in which a direct influence smaller than indirect with values of 0.293 and 0.376, respectively. This indicated that experience value was a good intervening variable for co-creation on alumni loyalty.

This study illustrated that efforts by higher education institutions to increase student involvement with co-creation services result in experience value and ultimately greater alumni loyalty. Alumni have an important role despite their indirect involvement in the management of higher education institutions (Gunarto et al., 2018a). Furthermore, co-creation can create value for students and universities. Following the Ministry of Education and Culture's policy regarding the *Merdeka-Belajar-Kampus-Merdeka (MBKM)* curriculum, the co-creation model encourages various student choices and creativity. Reichheld (Rillo, 2015) provided the potential consequences of alumni loyalty, including increased revenue, reduced customer acquisition costs, and servicing repeat buyers, resulting in greater profitability.

Based on a managerial perspective, due to the high competition in higher education institutions that reduces the number of students, universities should implement various strategies to acquire and maintain them. Private universities should undertake a different strategy from their competitors, such as co-creation. This study provided higher education managers with better resource planning and marketing implications in implementing a co-creation strategy with students. Therefore, these institutions, especially private universities, should implement a competitive strategy to increase students' value, which will be difficult to be imitated by competitors, by developing co-creation activities.

4. Conclusions

Co-creation in private universities increases the student experience value. This is realized through dialogue, easy access, joint decision-making, and transparency in learning activities. Higher experience value fosters a strong sense of attachment to the alma mater. Furthermore, co-creation increases alumni loyalty, inviting others to join the institution and providing good feedback on their alma mater. Stronger co-creation increases experience value during lectures and ultimately increases alumni loyalty to their alma mater. The *Merdeka-Belajar-Kampus-Merdeka (MBKM)* curriculum policy strengthens co-creation values, giving students freedom of opinion and choice.

Higher education institutions should develop a co-creation model to enhance students' interactions with tertiary institutions, including lecturers and administrative staff. The results showed that co-creation has short, medium, and long-term impacts, such as a good student

experience value in the short term. Increased interactions between students and lecturers, such as active collaboration in research and dialogue in learning, create interesting student experiences. This causes medium-term impacts, namely student satisfaction and confidence, leading to alumni loyalty to their alma mater in the long term.

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