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## STUDENTS' LOYALTY: DOES VALUE CO-CREATION IN HIGHER EDUCATION INSTITUTIONS MATTER?

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## STUDENTS' LOYALTY: DOES VALUE CO-CREATION IN HIGHER EDUCATION INSTITUTIONS MATTER?

### Abstract

This study investigates the influence for intrinsic and extrinsic motives on customers' participation in value co-creation activities (CPVCA), beside examining the direct and indirect impact for CPVCA on customers' loyalty. Quantitative research approach is used, while the study population encompasses all Lebanese private universities students. A questionnaire was developed to gather data from 403 universities' students who were chosen using the convenience sampling technique. PLS-SEM was adopted to examine the study proposed scale validity and the relationships between its latent variables. The current study results indicate a positive influence for both intrinsic and extrinsic motives on CPVCA. Also, the findings reveal a significant direct relationship among CPVCA and customer loyalty, as well as an indirect relationship via mediating brand experience.

### Keywords

Intrinsic motives, Extrinsic motives, Value co-creation, Brand experience, COVID-19, Customers' loyalty.

## 1. INTRODUCTION

Achieving customers' loyalty is considered as one of the main requests for firms' survival in competitive markets (Orel & Kara, 2014). In the same context, Cossío-Silva et al. (2016) demonstrated the role for customers' loyalty in acquiring competitive advantage, as one of the substantial firm's intangible assets, which explains researcher and practitioner continuous interest in investigating customers' loyalty antecedents. Researchers agreed about some customers' loyalty antecedents, such as; customers' satisfaction (Abror et al., 2019; Han et al., 2019; Singh et al., 2021; Bazzi et al., 2021) perceived value (Scridon et al., 2019; Atulkar, 2020); service quality (Daud et al., 2020; Makanyeza & Chikazhe, 2017); Relationship strength (Hayati et al., 2020; Bazzi et al., 2021). In the same vein, customers' participation in value co-creation (CPVCA) started to gain researcher interest as a new antecedent for customers' loyalty (Cossío-Silva et al., 2016). This paper takes a step backward in examining CPVCA as antecedent for customers' loyalty, through investigating the intrinsic and extrinsic motives for CPVCA.

Firms' interest in participating their customers in value co-creating activities, starts to appear with service dominant logic (S-D logic) perspective adoption, as a result for the major shift in marketing concepts from customer driven to customer centric marketing (Bowen & Schneider, 1995). Lately, CPVCA has emerged as one of the major academic priorities in the areas of marketing and education (Marketing science institution, 2016). Whereby, Chathoth et al. (2016) illustrated that the role of customers is not limited to service purchasing and consuming, instead it expanded to include participating in service design and delivery. In the same vein, Shamim et al. (2016) stated that customers are not just product/service buyers, rather than they are considered as firms' partners in creating value. There is little understanding of how consumers participate in value co-creation, whereby, this concept's comprehension requires farther investigation (Martínez-Cañas et al., 2016). Some researcher agreed about the importance for motives which leads to CPVCA (Brodie et al., 2013; Roberts et al., 2014). In which these motives were classified into intrinsic and extrinsic Customers' values co-creation motives (Roberts et al., 2014).

Researchers have not reached an agreement concerning the structure of the relationship between CPVCA and loyalty. Relatedly, some studies adopt direct relationship between CPVCA and customers' loyalty (for example, Iglesias et al., 2020; Woratschek et al., 2020; Thiruvattal, 2017). While, Other studies confirmed the existence of an indirect effect for CPVCA on customers' loyalty through customers' satisfaction (Prastiwi & Hussein, 2019); relationship strength (Rajah et al., 2008); perceived service quality (Mariyudi & Matriadi, 2018). While few studies examined the indirect relationship between CPVCA and customers' loyalty through brand experience (such as, Nysveen & Pedersen, 2014). Thus, the current paper investigates the indirect relationship between CPVCA and customers' loyalty through brand experience, beside examining their direct relationship.

Higher education institutions have recently experienced intense competition (Wilkins, 2020), which necessitates a continuous effort to retain students in addition to attracting and enrolling them (Chandra et al., 2019; Ju et al., 2020). Badeggi and Muda (2021) demonstrated the presence of student disloyalty toward high education institutions. Relatedly, Abouchedid & Nasser (2002) illustrated that Lebanese universities are attempting to address the issue of students' disloyalty by offering a broad range of academic majors and executing market-oriented policies.

Orozco and Arroyo (2017) illustrated that researchers recently devotes their interest toward understanding underrated variables that may help higher education institutions to overcome students' disloyalty problem, such as student participation in value co-creation activities. The current study aims to investigate the motives for Lebanese private universities students' participation in value co-creating activities, along with examining students' participation in value co-creation impact on loyalty. Also, this paper contributes to the literature through examining the role of brand experience as a mediator of the relationship between CPVCA and loyalty. Moreover, this paper is considered as one of the few empirical studies that investigate the influence for participating students in value co-creation activities on their loyalty in Lebanese higher education institutions.

## 2. THEORETICAL BACKGROUND AND VARIABLES CONCEPTUALIZATION

This study utilized perspectives from both self-determination theory (SDT) and service dominant logic (S-D logic) to demonstrate the importance of customers' value co-creation activities and their driving motives to participate in it. SDT is a comprehensive theory concerning individuals' motives and personality, outlining how individuals rely on and interact with their social environment. SDT asserted that individuals' motives can be categorized as intrinsic or extrinsic, and it indicated

how these motives influence their responses. (Legault, 2017). S-D logic major concept is related to value co-creation (Vargo & Lusch, 2008), thus its "notion is centered on the premise that value exchange is not only defined by the supplier but also negotiated through the exchange of resources between providers, users, and other co-creators" (Tommasetti et al., 2017, pp. 930). Hence, customers are recognized as an essential resource for a company, capable of managing other resources and actively participating in value co-creation activities (Vargo & Lusch, 2004). Conceptualizations for the current study variables are presented in the coming paragraphs.

## 2.1 Intrinsic Motives

Intrinsic motives refer to an individual's internal feeling toward carrying out a specific activity (White, 1959). Intrinsic motivation is defined as "engagement in behavior that is inherently satisfying or enjoyable" (Legault, 2016, pp.1). In the same vein, Levesque et. al. (2010) defined intrinsic motivation as individual behaviors conducted primarily for the sake of enjoyment and interest. Also, intrinsic motivation can be defined as performing a behavior for the sake of its inherent satisfaction rather than for any other separate reward (Ryan & Deci, 2000). Hence, intrinsically motivated individuals engage in activities that are stimulated by fun or challenge instead of any other external stimuli.

## 2.2 Extrinsic Motives

Extrinsic motives drive people to achieve their goals (Schiffman et al., 2015). Extrinsic motivation is defined as behaviors performed by individuals in order to obtain separable rewards or to avoid undesirable outcomes (Levesque et. al., 2010). Relatedly, Ryan and Deci (2000) defined extrinsic behavior as motives for conducting a specific activity to obtain a separated desirable reward. Thus, Individual views the conducted behavior as a means to obtain a specific benefit (Deci & Ryan, 1987). Engström and Elg (2015) illustrated that instrumentality is an extrinsic motives primary issue. As a result, it is regarded as an externally directed behavior.

## 2.3 Customers` Value Co-Creation

Customer value co-creation emerged as a key marketing concept, due to the shift toward a customer-centric focus (Sheth et al., 2000). Wikstrom (1996) defined Customers` value co-creation as social interaction and ability to adapt among suppliers and customers, with the goal of increasing the perceived value. Moreover, customers` value co-creation is defined as customers' active participation and engagement in value creation (Vargo & Lusch, 2004). Relatedly, Ahn et al., (2019) defined as customers` value co-creation as customers collaborating with other actors as well as engaging in the set of activities required for value creation.

## 2.4 Brand Experience

Zarantonello and Schmitt (2010) illustrated that customers are always seeking for brands that offer them positive and memorable experience, thus brand experience is at the forefront of marketing managers' interest. Alba and Hutchinson (1987) defined brand experience as consumer awareness and familiarity with a specific brand or brand category. Relatedly, brand experience is set of functional and emotional needs that allow businesses to guarantee a positive experience for their customers (De Chernatony et al., 2011). Also, Brakus et al. (2009) defined brand experience as subjective customers` internal and behavioral responses created as a result of brand-related stimuli.

## 2.5 Customers` Loyalty

Consumers` loyalty is defined as strong desire to rebuy a product or service, regardless of the influence for external factors and competitors` marketing efforts (Brown & Gaylor, 2002). Relatedly, Beerli et al. (2004) defined customers` loyalty as customers` re-buying for a certain product/service brand while avoiding competing offers. There are different conceptualizations for customers` loyalty. Whereby, Kandampully et al. (2015) demonstrated the existence for two dimensional conceptualizations for customers` loyalty; (1) attitudinal and (2) behavioral. In which, behavioral loyalty is explained by customer's re-buying behavior for a specific product or service (Jiang et al., 2015), while attitudinal loyalty can be expresses by customers' emotional link and feelings toward re-buying product/service and recommending

it to other customers (Baumann et al., 2012). Moreover, Watson et al. (2015) adopted three dimensional conceptualizations for customers' loyalty, by adding composite approach to behavioral and attitudinal approach. Rundle-Thiele (2005) explained that composite approach takes into account both customers' attitudes and willingness to repurchase a specific brand from a specific supplier.

### **3. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

The current study provides a review for the relevant previous literature, which constitutes the basis for developing both the study hypotheses and framework.

#### **3.1 Intrinsic Motives for Participating Customers in Value Co-Creation Activities**

Hedonic factors are individual intrinsic motives related to customers' interesting benefit. Knowing that the hedonic factor is regarded as the cause of an enjoyable, interesting, and mentally motivating experience (Nambisan & Baron, 2009). In the same vein, Sohail (2020) stated that enjoyment positively influence customers' intention to participate in value co-creation activities. CPVCA is influenced by their expectation of receiving an internal good, related to the activity itself (Martínez-Cañas et al., 2016). Thus, intrinsic motives influence customers' participation in value co-creation activities. Also, Fernandes and Remelhe (2016) illustrated that the intentions for customers to participate in value creation activities are positively influenced by intrinsic motivation. Moreover, Mandolfo et al. (2020) demonstrated that intrinsic motives are effective for increasing CPVCA. The following hypothesis is developed based on prior literature review:

***H1: Intrinsic motives positively influence customers' participation in value co creation activities.***

#### **3.2 Extrinsic Motives for Participating Customers in Value Co-Creation Activities**

Extrinsic motives include learning (knowledge) factors, in which customers participate in co-creation activities to understand the technology that supports a product/service, or to attain other useful knowledge (Hoyer et al., 2010). Relatedly, Fernandes and Remelhe (2016) demonstrated that consumers' willingness to share knowledge positively impact their participation in value co-created activities. Moreover, researchers agree that learning has a significant influence impact on CPVCA (Zwass, 2010; Roberts et al., 2014; Nambisan & Baron, 2009). In addition to learning factor, social factor is an extrinsic motive, which concentrates on "the benefits deriving from the social and relational ties that develop over time among the participating entities in the virtual customer environment" (Nambisan & Baron, 2009, pp. 391). Numerous research has found that social factors play a significant role in boosting CPVCA (Chen et al., 2012; Hoyer et al., 2010; Roberts et al., 2014). Martínez-Cañas et al. (2016) stated that CPVCA can be motivated by their desire for external goods apart from the activity itself. In other words, CPVCA is influenced by extrinsic motives. In the same context, Shah (2018) illustrated that extrinsic motives are used as an incentive approach to enhance CPVCA. Thus, the following hypothesis is developed based on prior literature review:

***H2: Extrinsic motives positively influence customers' participation in value co-creation activities.***

#### **3.3 Participation in Value Co-Creation Activities and Customers' Loyalty**

Customers' loyalty is regarded as an organization's competitive advantage, which can be established through participating customers in value co-creation activities (Lee et al., 2019). Regardless of the fact that few studies have investigated the impact of CPVCA on their loyalty, reviewing the related literature revealed that participating customers in value co-creating activities increases their loyalty (Cossío-Silva et al., 2016; Kaufmann et al., 2016; Hajli et al., 2017). Some researchers investigated the relationship between CPVCA and customers' loyalty in service industries. Whereby, Banytè et al. (2014) illustrated that patients' loyalty increases when they participate in value co-creation. While, Nysveen and Pedersen (2014) stated that participating the banks' customers in value co-creation activities positively influence

their loyalty. Moreover, tourists' participation in value co-creation activities positively influence their loyalty (Peña et al., 2014). In the same context, CPVCA increase their loyalty toward health insurance service providers (Iglesias et al., 2020). Hence, the following hypothesis is developed based on prior literature review:

***H3: Customers' loyalty increases with their participation in value co-creating activities***

### **3.4 Participation in Value Co-Creation Activities and Brand Experience**

Developing brand experience is among the primary areas of study for researchers (Brakus et al., 2009; Gentile et al., 2007). Although, prior studies examined the impact for CPVCA on brand experience (such as, Verhoef et al. 2009), empirical studies are limited (Nysveen & Pedersen, 2014). Hamzah et al. (2014) illustrated the existence for a relationship among brand experience and CPVCA. Relatedly, Shamim et al. (2016) stated that CPVCA has an indirect relationship with brand experience. Moreover, Shrivastava (2016) study revealed that CPVCA positively influence each dimension of brand experience. thus, CPVCA positively impact the affective, sensory, cognitive, and behavioral dimensions for customer's brand experience. Depending on the review for previous literature, the following hypothesis is developed:

***H4: Customers' participation in value co creation activities influence their brand experience.***

### **3.5 Brand Experience and Customers' Loyalty**

Customers' loyalty is recognized as a function of their brand experience; thus, a customer's positive experience with a particular brand over time stimulates their loyalty (Mascarenhas et al., 2006). Customers' loyalty is positively influenced by brand experience (Hussein, 2018). Many empirical studies conducted across different sectors demonstrated a positive relationship among customers' brand experience and their loyalty, such as, telecommunication industry (Nysveen et al., 2013), and dairy industry (Han & Li, 2012). Customers' loyalty toward SME is positively influenced by their brand experience (Ong & Zien, 2015). Furthermore, numerous studies agree that brand experience positively influence customers' brand loyalty, since customers want to reproduce their delightful experiences (Brakus et al., 2009; Khan et al., 2016; Zarantonello & Schmitt, 2010). Based on a previous review of the literature, the following hypothesis is developed:

***H5: Customers' brand experience has positive influence on their loyalty level.***

### **3.6 Brand Experience Mediating Role**

This paper contributes in investigating the mediation role for brand experience, since few studies examined the it's mediation between CPVCA and customers' loyalty; such as, Nysveen and Pedersen (2014) study which adopted brand experience as a mediator for relationship between CPVCA and customers' loyalty. The recent paper uses the following criteria to assess brand experience mediating role: First, investigates the direct path between the CPVCA (predictor) and customer loyalty (criterion). Whereby, CPVCA positively influence customers' loyalty (Cossío-Silva et al., 2016; Kaufmann et al., 2016; Hajli et al., 2017, Iglesias et al., 2020). Second, evaluates the indirect path between CPVCA and customers' loyalty by uncovering the significance of the following two relationships: (a) between the CPVCA (predictor) and Brand experience (mediator) and (b) between brand experience (mediator) and customers' loyalty (criterion). Knowing that previous studies found that CPVCA (predictor) positively influence brand experience (mediator) (Shrivastava, 2016). Moreover, previous research revealed a positive relationship between brand experience (mediator) and customers' loyalty (criterion) (Han & Li, 2012; Ong & Zien, 2015; Khan et al., 2016). Depending on analyzing and reviewing for prior literature, the following hypothesis is developed:

***H6: Brand experience mediates the relationship between customers' participation in value co-creation activities and their loyalty level.***

This study framework was developed based on a previous literature review, as shown in Figure (1) below:

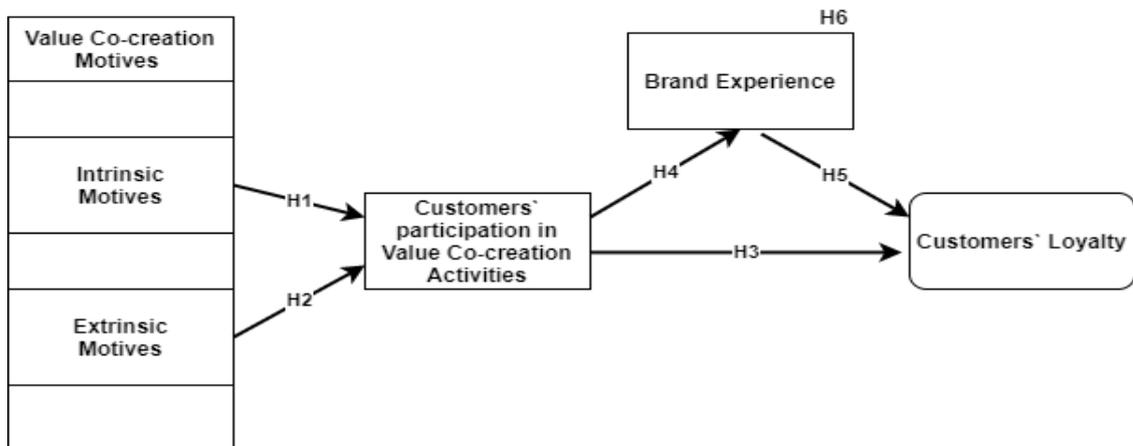


Fig.(1): Study Framework

#### 4. METHODOLOGY

This article presents a quantitative research approach, in which researchers rely on narrow questions to gather quantifiable data from Lebanese universities students, which are processed in further analysis using appropriate statistical methods (Creswell, 2008).

##### 4.1 Population and Sampling Technique

According to Yaacoub and Badre (2012), there are 180,850 students enrolled in thirty-eight Lebanese universities. Ghanem (2018) stated that in the academic year 2016/2017, 125000 students were enrolled in private Lebanese universities. The current paper population are all the private Lebanese universities' students. Whereby, the sample consists of 403 students who were chosen using the convenience sampling technique. Referring to "10 times rule," the sample size for this paper is adequate for data analysis based on PLS-SEM, in which CPVCA has the greatest indicators number (19 indicators) and it points toward two latent variables. Thus, the minimum required sample size is 210 students  $\{[19+2] * [10]\}$  (Hair et al., 2014). Males constitute 50.9 % of the recent study sample, while females constitute 49.1 %. Moreover, undergraduate students account for 68%, while postgraduate students account for 32%. Also, the majority of respondents (33.7%) are between the ages of 18 and 20.

##### 4.2 Study Variables Measurements

Intrinsic motives are measured by five measurement items (such as, "I enjoy to keep up with new ideas and innovations") (Fernandes and Remelhe, 2016, P. 10). While, nine measurement items are used to measure extrinsic motives (such as, I participate in student value Co-creation because I expect a monetary compensation for my participation) (Fernandes and Remelhe, 2016). Also, nineteen items are used to measure CPVCA (such as, I inform the lecturer about my difficulty in understanding a course in order to assist the lecturer in teaching) (Yi & Gong, 2013). Moreover, brand experience is measured by twelve measurement items (such as, my university often challenges my way of thinking) (Nysveen & Pedersen, 2014). Furthermore, customers' loyalty is measured by six measurement items (such as, "If I was faced with the same choice again, I'd still choose the same university") (Hennig-Thurau et al., 2001, p. 342). All the paper measurements are developed depending on five-points Likert scale.

#### 5. DATA ANALYSIS

This study's data analysis is classified into three sections: First, descriptive statistics, which present the key attributes of the study data set. Second, measurement model evaluation, which demonstrates the relationships among latent variables and their related indicators. Finally, evaluation for the structural model is performed to investigate the relationships between the study's latent variables.

## 5.1 Descriptive Statistics

The current study calculated the standard deviations (SD) and means to all the study variables. Whereby, Intrinsic motives have the greatest mean value (4.27), with a SD= 0.646. Extrinsic motives, on the other hand have the least mean value (3.73), and SD= 0.800. This study also examines whether the data set modeling is normally distributed by conducting skewness normality tests. In which, that "Skewness assesses the extent to which a variable's distribution is symmetrical. If the distribution of responses for a variable stretch toward the right or left tail of the distribution, then the distribution is referred to as skewed" (Hair et al., 2017, p. 61). Any numerical value for skewness test greater than +1 or less than -1 represents a highly skewed distribution (Hair et al., 2017). According to table 1, the current study data subject to normal distribution, since the skewness values for all the study variables are within the normal range.

Table 1: Variables mean, standard deviation & skewness test

	Mean	Std. Deviation	Skewness	
			Statistic	Std. Error
Intrinsic Motives	4.27	0.646	-0.739	0.122
Extrinsic Motives	3.73	0.800	-0.332	0.122
participation in Value Co-creation	4.03	0.588	-0.108	0.122
Brand Experience	3.76	.0815	-0.465	0.122
Customers` Loyalty	3.94	0.851	-0.693	0.122

## 5.2 Evaluation for the Measurement Model

The content validity was fulfilled by ensuring that all measurement items accurately reflected the measured variables. In other words, the researchers checked the procedures for developing the measurement items (Straub, 1989). Moreover, construct validity is validated, with all measurement items obtained from well-known studies (kerlinger, 1964). This study is based on PLS-SEM, in which Smart PLS-3 software has been used, which enables examining hypotheses in regards to existed concepts and theories, as well as the possibility of using it in theory development (Sarstedt et al., 2014). Moreover, using PLS-SEM requires classifying the study variables into reflective and formative, while all the current study variables are reflective. In order to conduct an adequate evaluation for the study variables measurement model, this paper investigates the reliability, convergent validity, and discriminant validity.

### 5.2.1 Reliability (Internal Consistency)

Internal consistency refers to the degree to which all measurement items accurately assess the same construct (Revelle, 1979). Cronbach alpha and composite reliability are deployed in this paper to examine reliability. The Cronbach alpha values for the study's variables are as follow: intrinsic motives (0.818), extrinsic motives (0.929), CPVCA (0.909), brand experience (0.948), and customers` loyalty (0.885). Thus, all the alphas values are greater than 0.7, revealing appropriate internal consistency for this current study variables (Nunnally, 1978). Moreover, this study assessed composite reliability, which is strongly recommended in structure equation modeling research (Peterson & kim, 2013). The composite reliability values for study variables are as follow: intrinsic motives (0.875), extrinsic motives (0.942), CPVCA (0.921), brand experience (0.955), and customers` loyalty (0.913). Hence, satisfying composite reliability, since all values are greater than 0.7 (Hair et al., 2014).

### 5.2.2 Convergent Validity and Discriminant validity

The current study checked the convergent validity for each construct item measures to ensure that they are positively associated to one another (Campbell & Fiske, 1959). As a result, the current study relies on factor analysis to assess the outer loading for the variables measurement items, and to calculate the average variance extracted (AVE). The outer loadings for intrinsic motives items range from 0.566 to 0.814, with AVE = 0.586. Extrinsic motives outer loadings range from 0.645 to 0.866, with AVE = 0.643. The outer loadings for CPVCA measurement items range from 0.391 to 0.728, with AVE = 0.387. Brand experience measurement items outer loadings range from 0.522 to 0.862, with AVE = 0.643. Finally, customers` loyalty measurement items outer loadings range from 0.715 to 0.859, with AVE = 0.636. This study follows Chin (1998) and Hair et al. (2011) criteria, where any construct indicator loading less than 0.5 is removed. Thus, dropping three measurement items for CPVCA {CPVCA11 (outer loading = 0.398), CPVCA7 (outer loading = 0.439) and CPVCA8 (outer loading = 0.391)} which have outer loading values less than 0.5. Moreover, all the measurement items for intrinsic motives, extrinsic motives, brand experience and customers` loyalty are retained. Relatedly, Fornell and Larcker (1981) illustrated that deleting the indicators with inappropriate loading values raises the AVE for the construct to be greater than 0.5. Hence, removing three measurement items for CPVCA, leads to increase in its AVE to reach 0.533. Also, the composite reliability for CPVCA increased from 0.921 to reach 0.924, which agrees with Henseler et al. (2009) assumption concerning the increase in composite reliability for the construct after deleting its inappropriate measurement items.

Table 2: Latent variable correlation compared to  $\sqrt{AVE}$

	Intrinsic motives	Extrinsic motives	CPVCA	Brand Experience	Customers` Loyalty	AVE	$\sqrt{AVE}$
Intrinsic motives	1.000	0.537	0.598	0.441	0.456	0.586	0.765
Extrinsic motives	0.537	1.000	0.578	0.536	0.493	0.643	0.801
CPVCA	0.598	0.578	1.000	0.550	0.526	0.387	0.622
Brand Experience	0.441	0.536	0.550	1.000	0.734	0.643	0.801
Customers` Loyalty	0.456	0.493	0.526	0.734	1.000	0.636	0.797
<b>Notes:</b> AVE=Average Variance Extracted CPVCA= Customers` Participation in Value Co-creation Activities							

This study also investigates the discriminant validity of the constructs to assess whether every construct is highly related to its specific measurement items. In this sense, Fornell and Larcker criterion is used to ensure that the  $\sqrt{AVE}$  for each latent variable is higher than its correlation with any of the other latent variables (Fornell & Larcker, 1981). Table 2 demonstrates that the  $\sqrt{AVE}$  for each study latent variable is bigger than any correlation between it and other latent variable. Thus, fulfilling discriminant validity for the study's latent variables.

Also, examining cross loading reveals that all latent variables indicators` loadings on their specific construct is higher than its loadings on the rest constructs (Gefen & Straub, 2005). Thus, depending on the values of cross loading, discriminant validity is satisfied. Moreover, according to Henseler (2017) the findings presented in table 3 indicate an accepted Heterotrait-monotrait ratios below 0.9, while their confidence interval bias does not contain 1 (Henseler et al., 2015).

Table 3: HTMT Values and Confidence Intervals Bias Correlations

	Original Sample (O)	Sample Mean (M)	2.5%	97.5%
Customers` Loyalty -> Brand Experience	0.790	0.793	0.744	0.840
Extrinsic Motives -> Brand Experience	0.569	0.569	0.470	0.667
Extrinsic Motives -> Customers` Loyalty	0.537	0.537	0.428	0.625
Intrinsic Motives -> Brand Experience	0.498	0.500	0.410	0.586
Intrinsic Motives -> Customers` Loyalty	0.538	0.538	0.438	0.636
Intrinsic Motives -> Extrinsic Motives	0.608	0.605	0.518	0.681
CPVCA -> Brand Experience	0.588	0.588	0.496	0.682
CPVCA -> Customers` Loyalty	0.575	0.574	0.487	0.657
CPVCA -> Extrinsic Motives	0.617	0.615	0.527	0.687
CPVCA -> Intrinsic Motives	0.684	0.683	0.607	0.759
<b>Notes:</b> CPVCA= Customers` Participation in Value Co-creation Activities				

### 5.3 Structural Model Evaluation

Evaluating the structure model includes the following main steps: First, collinearity assessment. Second, coefficient of determination ( $\Delta R^2$ ). Third, blindfolding predictive relevance ( $Q^2$ ). Forth, path coefficients and finally, size effect ( $F^2$ ) (Nouraldeen et al., 2021). Moreover, figure 2 below presents this study model as developed by Smart PLS-3 software.

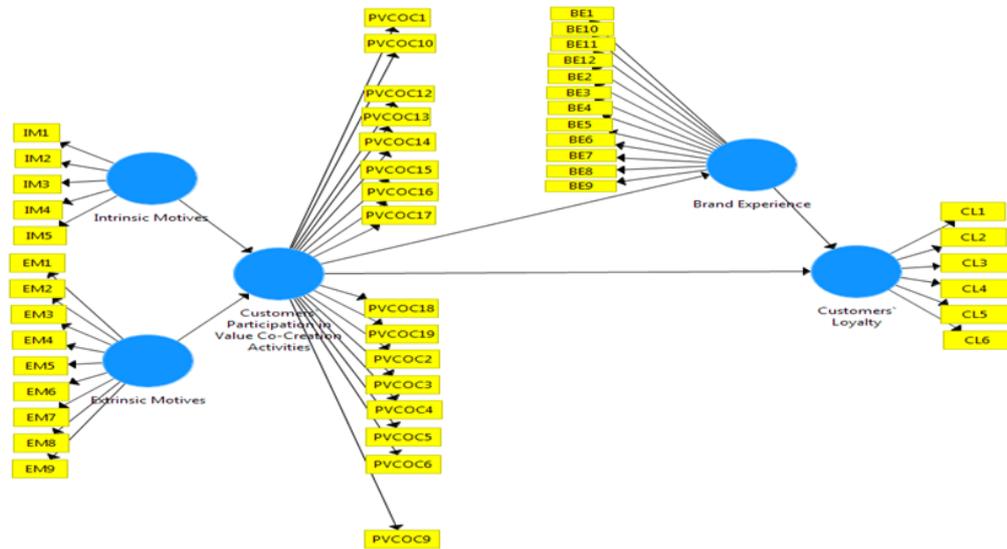


Fig.(2): Research model developed by smart PLS-3 software

#### 5.3.1 Collinearity Assessment

The correlations between the study's indicators are examined through calculating variance inflation factors (VIF). Whereas, VIF value equal or greater than 5 represents a significant collinearity problem (Hair et al., 2011). Hence, referring to VIF values presented in table 5 no series collegiality exists between this study's indicators.

Table 5: Inner VIF values

	Brand Experience	CPVCA	Customers` Loyalty
Intrinsic Motives		1.405	
Extrinsic Motives		1.405	
Brand Experience			1.400
CPVCA	1.000		1.400
<b>Notes:</b> CPVCA= Customers` Participation in Value Co-creation Activities			

5.3.2 Coefficient of Determination ( $\Delta R^2$ ), Blindfolding Predictive Relevance (Q square), Path Coefficients and Size Effect ( $f^2$ )

The researchers depend on computing the path coefficients to test the study hypotheses, and to evaluate the strength of the relationships between the variables under study. Any path coefficient value near to +1 uncovers a robust positive relationship, whereas any path coefficient value close to -1 demonstrates a robust negative relationship, as well as any path coefficient value close to zero indicates an insignificant relationship among the study variables (Garson, 2016). Path coefficients for the study variables, as well as the comparison between the t-values for each path and t-critical value (2.58 at level of significant 1%) are presented in table 6 below. Any supported hypothesis should have a t-value higher than t-critical, as well as a significant p-value (Garson, 2016).

Table 6: Path coefficient results, Coefficient of determination ( $\Delta R^2$ ), predictive relevance ( $Q^2$ ) and size effect ( $f^2$ )

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	$f^2$
Intrinsic Motives -> CPVCA	0.412***	0.412	0.043	9.687>2.58	0.220
Extrinsic Motives -> CPVCA	0.352***	0.354	0.044	7.967>2.58	0.160
CPVCA -> Customers` Loyalty	0.180***	0.182	0.052	3.446>2.58	0.053
CPVCA -> Brand Experience	0.534***	0.535	0.047	11.349>2.58	0.400
Brand Experience -> Customers` Loyalty	0.638***	0.637	0.044	14.514>2.58	0.666
	<b>CPVCA</b>		<b>Brand Experience</b>		<b>Customers` Loyalty</b>
$\Delta R^2$	0.447		0.284		0.561
$Q^2$	0.179		0.170		0.331
<b>Notes:</b> $\Delta R^2$ : adjusted R square; $Q^2$ : predictive relevance, $f^2$ : size effect, CPVCA= Customers` Participation in Value Co-Creation Activities ***p < 0.01					

Table 6 presents the values for adjusted R square. Whereby, 56.1% of customer`s loyalty variation is caused by the variation in CPVCA and brand experience. Also, 28.4% of the change in brand experience is caused by the change in CPVCA. Moreover, 44.7% of the variation in CPVCA is due to the variation in intrinsic and extrinsic motives. Furthermore, the results indicate that the study model has a high predictive power. As a result, all predictive -relevance ( $Q^2$ ) values are greater than zero {CPVCA ( $Q^2= 0.179>0$ ), Brand Experience ( $Q^2= 0.170>0$ ) and Customers` Loyalty ( $Q^2= 0.331>0$ )} (Geisser, 1974).

### 5.3.2.1 Testing H1 and H2

The value of the path coefficient demonstrated a positive relationship between intrinsic motives and CPVCA, with a medium size effect (path-coefficient = 0.412; P-value < 0.01; t-statistics 9.687 > t-critical 2.58;  $0.15 < F^2 = 0.220 < 0.35$ ) (Cohen, 1998). Thus, supporting H1. Moreover, the results indicated positively significant relationship between extrinsic motives and CPVCA, with a medium size (path-coefficient = 0.352; P-value < 0.01; t-statistics 7.967 > t-critical 2.58;  $0.15 < F^2 = 0.160 < 0.35$ ) (Cohen, 1998). As a result, H2 is supported.

### 5.3.2.2 Testing H3

The researchers examine the direct relationship between CPVCA and Customers' loyalty, through testing H3. Whereby, path coefficient value reveals a positive significant relationship between CPVCA and Customers' loyalty, with a small size (path-coefficient = 0.180; P-value < 0.01; t-statistics 3.446 > t-critical 2.58;  $0.02 < F^2 = 0.053 < 0.15$ ) (Cohen, 1998). Thus, supporting H3.

### 5.3.2.3 Testing H4 and H5

The path coefficient value indicates a positively significant relationship between CPVCA and brand experience, with a large size (path coefficient = 0.534; P < 0.01; t statistics 11.349 > t-critical 2.58;  $F^2 = 0.400 > 0.35$ ) (Cohen, 1998). As a result, H4 is supported. Also examining the value of the path coefficient between brand experience and customers' loyalty reveals a significant positive influence for brand experience on customers' loyalty, with a large size effect (path coefficient = 0.638; P < 0.01; t statistics 14.514 > t-critical 2.58;  $F^2 = 0.666 > 0.35$ ) (Cohen, 1998). Thus, H5 is supported.

### 5.3.2.4 Brand Experience Mediating Role (H6)

The current study findings demonstrate a significant total effect for CPVCA (predictor) on customers' loyalty (criterion) (t-statistics = 12.373; p < 0.01), in addition to significant indirect relationship between CPVCA (predictor) and customers' loyalty (criterion) (t-statistics = 8.585; p < 0.01), as presented in table 7 below. Also, supporting H3 indicated a direct significant relationship between CPVCA (predictor) and customers' loyalty (criterion). As a result, a partial mediator for the relationship between CPVCA (predictor) and customers' loyalty (criterion) exists. Moreover, supporting H4 and H5 demonstrated a significant influence for: (1) CPVCA (predictor) on brand experience (mediator), and (2) brand experience (mediator) on customers' loyalty (criterion). Hence, brand experience partially mediates the relationship between CPVCA and customers' loyalty. Based on previous analysis H6 is supported.

Table 7: Total effect and indirect effect for CPVCA on customers' loyalty

	Total Effect		Indirect Effect	
	Standard Deviation (STDEV)	T Statistics	Standard Deviation (STDEV)	T Statistics
CPVCA -> Customers' Loyalty	0.042	12.373***	0.040	8.585***
<b>Notes:</b> CPVCA= Customers' Participation in Value Co-Creation Activities ***p < 0.01				

## 6. DISCUSSION

The current study contributed in examining the influence for intrinsic and extrinsic motives on students' participation in value co-creation activities, in addition to investigating the direct and indirect effect for students' participation in value co-creation activities on their loyalty toward Lebanese private universities. Whereby, supporting H1 revealed a significant positive influence for intrinsic motives on CPVCA, which is consistent with the findings of Fernandes and Remelhe (2016) and Mandolfo et al. (2020). Thus, students' hedonic feelings such as enjoyment and interest play an active role in enhancing their participation in value co-creation activities. Hence, higher education institutions' managers must devote their interest toward establishing challenging and enjoyable value co-creating activities, which permit high level of customers' participation.

Also, supporting H2 indicates a positive influence for extrinsic motives on CPVCA, which goes in line with the results for Martínez-Cañas et al. (2016) and Shah (2018). Hence, in addition to hedonic factors, universities students can be motivated by utilitarian benefits, which might not be related directly to the co-created activity itself. Hence, higher education institutions' managers must not ignore the role for extrinsic motives in enhancing students' participation in value co-creation activities. Thus, managers must prepare suitable plan for enhancing the attractiveness of value co-creation activities, such as; offering participating students; a discount on their tuition fees, opportunities for learning new technologies, chance for meeting and interacting with colleagues and instructors.

Moreover, the current study results revealed a positive direct influence for CPVCA on loyalty, through supporting H3. In other words, participating universities' student in value co-creation activities boosts their loyalty. Thus, agreeing with the findings for Hajli et al. (2017) and Iglesias et al. (2020). As a results higher education institutions' managers must focus on participating students in value co-creating activities as a creative solution for students' disloyalty problem. Furthermore, to investigate the indirect relationship between CPVCA and loyalty, this study examined the influence for (1) CPVCA on brand experience in addition to the influence for (2) brand experience on customers' loyalty. While supporting H4 indicates the positive influence for CPVCA on brand experience, which goes in the line with results for Shrivastava (2016). Thus, demonstrating the positive effect for participating universities students in value co-creation activities on their awareness and familiarity with university's brand. Also, this papers provides an evidence for brand experience positive impact on customers' loyalty, whereby H5 was supported, thus confirming with the results of Khan et al. (2016) and Zarantonello and Schmitt (2010). In other words, universities' students are interested in repeating their delightful experiences, which enhance their loyalty toward their higher education service provider.

Finally, this paper contributed in investigating brand experience mediating role for the relationship between CPVCA and customers' loyalty, through accepting H6, which is consistent with the results for Nysveen and Pedersen (2014). Whereby, supporting H3 indicated a significant direct path between CPVCA (criterion) and customers' loyalty (predictor). Also, a significant indirect relationship exists between the predictor and the criterion, through brand experience, since supporting H4 demonstrated a significant path between CPVCA (predictor) and brand experience (mediator), while supporting H5 illustrated a significant path between brand experience (mediator) and customers' loyalty (criterion). As a result, brand experience partially mediates the relationship between CPVCA and customers' loyalty. Hence, brand experience is considered as cornerstone for overcoming universities students' disloyalty, through exerting a positive influence on students' loyalty, in addition to performing a partial mediation role for the relationship between students' participation in value co-creating activities and their loyalty.

## **7. LIMITATIONS AND FUTURE RESEARCH**

This study includes some limitations that may have an impact on the generalization of its results. First, this paper adopted cross-sectional technique, whereby, future longitudinal studies should be carried, to better demonstrate the impact of CPVCA on customers' loyalty. Second, convenience sampling was used as one of the non-probability sampling techniques. In this regard, future research that relies on probability sampling techniques, such as simple random sample are highly recommended. Finally, this research was carried out during the COVID-19 pandemic, which may have influenced students' willingness to participate in value co-creating activities. Whereby, COVID-19 may boost CPVCA, but they'll be less likely to participate after the pandemic

is over (Steen & Brandsen, 2020). As a result, upon COVID-19 end, a future replication study is highly advised.

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