

## Identifying the Fields and Mechanisms of Value Co-creation in Foreign Language Institutions Using Fuzzy DEMATEL Ranking Approach (Case Study: Tehran, Iran)

Seyed Mohammad Sobhani<sup>1✉</sup>, Morteza Soltani<sup>2</sup>, Mohammad Reza Fathi<sup>2</sup>

1 - M.A. of Business Management at University of Tehran, Tehran, Iran , [mohamadsobhani@ut.ac.ir](mailto:mohamadsobhani@ut.ac.ir)

2- Associate Professor, College of Farabi, University of Tehran, Tehran, Iran

### Article Info

#### Article type:

Research Article

#### Article history:

Received 31 Jul. 2023

Received in revised form 10

Aug. 2023

Accepted 19 Sep. 2023

Published online 01 Dec. 2023

#### Keywords:

Value Co-creation,

Education,

Foreign Language Institutions,

Language Learner

### ABSTRACT

**Objective:** The emerging concept of value co-creation marketing as a new paradigm; is a shift from an organization-based perspective to a more moderate perspective upon interactions among the organization, customers, and value co-creation experience leading to frequent mutual interaction. Co-creation amongst companies and customers is one of the most prospective areas in both consumers' cyber-space and the real world, and also quite an emerging research territory which has not been the target of particular research studies in Iran yet; however, the same handful of studies are conducted to highlight the necessity for more rigorous investigations to understand this phenomenon. This research intends to explore the value co-creation fields and mechanisms of Foreign Language Institutions located in Iran.

**Methods:** The present study utilizes Mixed-Methods Research; initially, the main themes were extracted from the studies relevant to co-creation through Thematic Analysis Method which were verified by twenty experts and specialists selected via judgmental sampling. Then, the Pairwise Comparison Matrix questionnaires were provided and distributed amid twelve career experts by theoretical and targeted sampling for the Fuzzy DEMATEL Method in pursuance of the ranking of Fields and Mechanisms.

**Results:** The findings expressed that value co-creation has five main Fields and 27 Mechanisms (The five main fields' subsets) in Foreign Language Institutions that can substantially contribute to the management board pursuing mutual satisfaction and sense of engagement leading to effective performance in this market of intense and cut-throat rivalry.

**Conclusions:** The findings can be used as a basis for strengthening mechanisms of value co-creation in foreign language institutions.

**Cite this article:** Sobhani, S. M., Soltani, M. & Fathi, M.R. (2023). Identifying the fields and mechanisms of value co-creation in foreign language institutions using fuzzy DEMATEL ranking approach (Case Study: Tehran, Iran). *Iranian Journal of Educational Research*, 2 (4), 58-74.

DOI: <https://doi.org/10.22034/2.4.58>



© The Author(s).

DOI: <https://doi.org/10.22034/2.4.58>

Publisher: University of Hormozgan.

## Introduction

Recent changes in customers' lifestyle have profoundly impacted the course in which organizations, institutions, and the global economy and social actors live (Schotler, 2008)(Ostrom, 2014). The surge of competitiveness in markets configuration and an increase in economically and socially dynamic complexities have compelled both researchers and actors to identify paths, strategies, and models for improving organization opportunities and capabilities to survive challenging scenarios.

Today, competition has also grown higher among industrial service providers like banks, transportation, companies, and even institutions. According to Mehr News Agency, with enthusiastic bubbling up in people for academic studies and using imported sciences, families have sensed the need for learning a language farther than the past. This issue has generated growth in emerging and profitable job markets for Language Institutions all over the nation.

There in this cut-throat competition among institutions, including foreign language institutions, the primary obligation requires identifying the current and future types of people who count and will count customers (Lynch, p:567) and success will come into possession of those who seek market-based methods for expanding products in order to ensure the capability of new products with these customers preferences among which engaging users in expanding new products and inviting them in order for presenting innovative ideas could be referred to (Dijk et al.,2014). , In other words, the emergence of service dominance logic (S-D Logic) has resulted in a change in the marketing paradigm and has provided a novel approach regarding customer engagement in value co-creation.

Considering the required resources through a wide range of activities and interactions (Arnould et al., 2006)(Barob & Harns, 2008), customers participate in value co-creation. Accordingly, customers play a major, although a different role in providing services and realizing profits (Sweeney et al.,2015). Therefore, co-creation means more than a title or concept for contemporary interactions between consumers and enterprises (Prahalad & Ramaswamy, 2004) and has conceptualized as "perceived interest from the consideration of sources through activities and interaction with colleagues in a customer-based network"(McColl-Kennedy et al., 2012)

Language Learners and Foreign Language Institutions have different motivations for improving language Learners' experiences. Agency which is a part of academic engagement, represents

individuals' voluntary engagement in the educational process leading to a better learning outcome (Homayon et al., 2023), this can be implemented by co-creation strategies in a better facilitated way. By investing and attempting to boost profits via competition in the market, institutions get motivated to even apply some marketing strategies for creating better relationships with customers to attract and satisfy language Learners which is of high urgency in this field the number of rivals are substantially increasing in the aspect of both quality and quantity. Language Learners also are faced with a great wave of local advertising and having pleasant experiences in the classroom and cooperation in ways the classes are held and providing their current and future needs are all motivating for them. Finally, having pleasant and useful experiences in a foreign language classroom will be conducive to their loyalty during their studying period and a surge in the retention rate as well as attending the regular courses, however, the old marketing strategies do not seem to have proved successful in creating this cooperative relationship.

## Literature Review

### The Emergence of Value Co-creation

In the traditional Paradigm of manufacturing new products, consumers have been regarded as passive identities highly dependent on the enterprise to meet their needs (Karpentrot et al., 1994). The new marketing concept of value co-creation provides shifts from an organization-based view to a more moderate view of organizations and clients in interacting and co-creating experiences with one another (Gronroos, 2008) (Prahalad & Ramaswamy, 2004) (Vargo & Lusch, 2004) (Vargo et al., 2008). Customer value co-creation behavior has recently been the topic of interest in the marketing literature (Pilon and Hadjielias, 2017) (Sinkovics et al., 2018). Co-creation is the process of value creation by the customer and the company that contributes to a tour company's sustainable growth (Tuan et al., 2019). Consumer value is significant for understanding both past progress and future progress (Gallarza and Saura, 2020). Co-creation intention directly affects attitude toward the service and product which is presented by the organization and *the organizations can be confident that customer will attain a desirable experience from participating in co-creation activities* (Soltani et al., 2017). Value co-creation is not sufficient for developing cooperation using people's experiences inside and outside the organization; commercial value is developed. The market is seen as an area where people function

more actively in developing value. The new market includes clear aspect by which customers switch into a new source of qualification for the organization. The qualification that customers obtain is the consequent result of their knowledge and skills, tendency toward discovery, learning and their ability in an active conversation.

Prahalad and Ramaswamy (2004) suggest that organizations should focus on personal interactions for value co-creation with their customers. To realize this goal, the authors conceptualize four primary structural blocks of interaction between organizations and their customers, facilitating the co-creation experiences. The blocks of value-creation will be considered for analyzing conversation, clarification, process and the privileges of the risk of the acquired results from our field studies concerning our campaign of social networks employment. According to Prahalad & Ramaswamy (2004), conversation encompasses mutual interaction, deep commitment, and capability and inclination to act. Thus, the conversation is formed of dialogue between consumers' problems while simultaneously; the Institution is acquiring the customers' related knowledge.

As Prahalad & Ramaswamy (2004) stated and as Verhoef, Reinartz & Krafft (2010) predicted the conversation between two unequal partners as tough. Therefore, realizing an active conversation between college or university and customer for an assistant should be equal and joint problem solvers. Our field studies demonstrate that one of the criteria by which social networks employment gained success is the possibility of using audience in conversations between university, college, and applicants and the feasibility of interaction among applicants. Based on Prahalad & Ramaswamy (2004), organizations should be having a concentration on personal interactions for having value co-creation with their customers. Furthermore, they claim that consumers seek freedom of choice for interacting with their company via a wide variety of experiences. Also, consumers want to define choices in such a way that reflects the views of value, and they want to interact and exchange applying their unique Language and style. University students and who attend that employment campaigns and applicants are equal partners. Therefore, there are joint problem solvers. This conversation was based upon topics of interest favored by all sides.

Overall, the reasons for the emergence of co-creation value are as follows: 1. A wide variation of products and customer dissatisfaction with standard products (Fachez & Schrear, 2011), 2. Enhancing customer empowerment 3. Restrictive factors in conventional market research.

### **The Significance of Customer Participation Behavior**

Previous studies have covered different dimensions of customer participation (Chen & Raab, 2014) (Groth, 2005) (Auh & Yi, 2007) (Yi et al., 2011) (Kelly et al., 1990) (Ennew & Binks, 1999); (Clay Comb et al., 2001), (Uzkurt, 2010) and especially Yi Gong (2013) consider customer participation behavior as one of the broader dimensions of customer value co-creation behavior respectively from one, two, three, four dimensions.

Various customer participation dimensions were revealed in formerly carried out studies. (Chen and Raab, 2014), from single dimension (Groth, 2005) (Auh et al., 2007) (Yi et al., 2011) to two dimensions (Kelley et al., 1990), three dimensions (Ennew and Binks, 1999) (Claycomb et al., 2001), or four dimensions (Uzkurt, 2010). In particular, Yi and Gong (2013) state customer participation behavior as a dimension of the vaster structure of customer value co-creation behavior, should be deliberated.

### **Value Co-creation in the Education Industry**

Value co-creation is a process by which students' sources along with organizational sources can lead to better practice and innovation for facilitating a wide range of activities and experiences which is conducive to exchange interaction enhancements (Prahalad & Ramaswamy, 2004). Some examples of student sources include thinking abilities, study methods, sense of responsibility and personality (Diaz-Mendez & Gummerrsson, 2012) as well as their opinions and views on their learning experiences. Although value co-creation has been applied once again in higher education (Diaz-Mendez & Gummerrsson, 2012) (Elshariabi, 2015) (Navarro Garcia et al., 2015), there is no comprehensive conceptual pattern of value co-creation.

Students have been engaged with education for a long time (Chickering & Gummerrsson, 1999) (Kuh, 2003). Value co-creation is mostly recognized as a marketing and management strategy which integrates consumer resources in order to co-create a novel and innovative form of value jointly (Perks et al., 2012)

Permitting the institutions and students to establish relationship and cooperation, value co-creation bridges which have already been separated from asymmetrical information and knowledge of users and producers, has been demonstrated to be between producers and consumers (Won Hippel,

2009). Learners' different knowledge and resources can jointly attempt to meet the other groups' needs with educational Institutions and employees through co-creation (Fraw et al., 2015) (Won Hippel, 2009) (Zwass, 2010).

## Materials and Methods

Considering that the purpose of this study which is to identify the mechanisms and fields of value co-creation in Foreign Language Institutions, it was necessary to apply mixed study methods.

In This research, the interpretive approach to the first phase is thematic analysis which deals with identifying the primary and secondary themes of the study and in the field of value co-creation in the education industry and after identifying the fields and mechanisms, the Fuzzy DEMATEL quantitative method was applied to determine the relations.

The statistical population is the qualitative part of the study included experts in the education industry related to foreign language institutions in Tehran province, whether in academic circles or executive and administrative apparatuses, including 23 CEOs of high ranking brands in this industry that were all advantaging from more than 15 years of experience in their career; although the theoretical saturation was reached after 20 interviews.

However, the first step for the interviewees is identifying people who possess thorough and comprehensive information in the industry of foreign language teaching and educational marketing. For this reason, based on the acquired information in this field and consulting with masters, several subjects who specialized in both administrative and academic areas were identified via judgmental sampling and then interviewed. Later on, considering the qualitative feature of the study, and in order to continue the interview reaching the theoretical saturation, the snowball sampling method was utilized. Actually, interviews continue as long as they reach theoretical saturation about the given phenomenon. .

The process of thematic analysis commences when the analyst considers patterns of meaning and topics that are potentially appealing. This analysis consists of persisting back-and-forth between the data set and coding set as well as data analysis which develops. Analysis transcription commences from the very beginning. The six phases of thematic analysis are implemented with Braun and Clarke's approach. The phases include 1. familiarity with the data 2. Generating initial codes, 3. searching the themes, and 4. report formulation.

To confirm the reliability, re-test has been employed. In selected as a sample and either of them is coded once again within a certain interval. In either of the interviews, similar codes have been determined as agreement and different codes as disagreement. Then the following formula has been applied to ascertain code's reliability.

$$P(A) = \frac{2n(A)}{n(S)}$$

In the present study, three interviews have been utilized for reliability evaluation by re-test, which have been coded again by the researcher during a one-week interval. The recorded results have been provided in the following Table (1).

**Table 1.** Codes Statistics

Row	Interview Code	Number of All Codes	Number of Agreements	Re-test Reliability
1	P1	36	12	0.70
2	P2	45	18	0.71
3	P11	42	31	0.85
		123	61	0.75

The above table represents, the number of all codes is equal to 123 within a one-week interval, and the number of all agreements between codes equals 61. given the above formula, re-test reliability is 82%, and as it is above 0.6, the interview is stated to have sufficient reliability.

For present study's validity evidence-comparison techniques by the current literature has been used for ensuring that concepts are relevant to each other in an organized manner and have internal consistency and to increase data validity, multiple sources of evidence, detailed description of data sets during the process of their gathering, defining the research limits and having a key draft as well as studying institutions' evidence and documents have been employed. Also, in the interview method, validity must be considered for any of the seven phases of research so that the acquired results can be dependable and reliable validity is in all seven phases of topic selection, design, interview, duplication, analysis and confirmation which were all taken into consideration in this study.



## Results

As value co-creation is a novel topic, and such research in the field of educational services has been received scant regard, a large number of reporters have welcome customer partnership in the education business. Some of the conducted interviews are provided in Table 2.

**Table 2.** Interviews and Codes Sample

Code	Definition	Interviewees
<b>Change in the Current Syllabus</b>	Given that new generation of customers differ from the previous generation of customers of Institutions in terms of needs, the studying syllabus should be tailored to their opinion in terms of source and time	M1, M8, M10
<b>Introduction of New Sources</b>	Some language learners, considering the number of years having been participating in Language Institutions, hold interesting ideas for lesson design and even for selection of lesson sources. Even they plan to be our colleague in the future and accordingly, they share their ideas with us.	M2, M12, M13, M18, M19, M21
<b>Evaluation of the extent of Decision Effectiveness</b>	One of the numerous issues with which managers are faced is that they have adapted decisions and in the most optimistic mode, this decision has been made based on the market information and research, and again, in the most optimistic mode, it is implemented, however, it is less likely that they evaluate and measure the decision's effectiveness and control the results.	M2, M5, M6
<b>Market Intelligence</b>	Research and development receive insignificant notice in Iranian Institutions. Hereupon, although there is no market intelligence in it. For this reason, no one can act intelligently in the market without customers' help and accompaniment.	M7, M11
<b>Word-of-Mouth Marketing</b>	The most important thing about accompanying and interacting with the students and even their families is their Word-of-Mouth marketing which originates from their satisfaction, loyalty and trust.	M1, M2, M8, M9, M10, M11, M20, M21
<b>Relationship Marketing</b>	Marketing and customer have been given less importance in the education Industry, In reality, specifically, in smaller cities, this matter has been entirely ignored which is a mutual and cooperative relationship that can save the organization. In an appropriate relationship among the educational center (From managers to employees and masters) and customers, there can be hope for customer loyalty and synchronization.	M5, M6, M8, M14, M18, M21

## Classification and Coding

Finally, after searching and identifying themes, the researcher could discover a set of themes within which each code belonged to an identified theme.



**Table 3.** Identified Mechanisms and Fields of Co-creation in Foreign Language Institutions

Row	Mechanisms	Fields
1	Evaluation of Proper Treatment	Performance Evaluation
2	Evaluation of Masters and their Efforts in Covering the Syllabus	
3	Evaluation Provided Services	
4	Evaluation of the Decision-Making Effectiveness	
5	Evaluation of the Extent of the Satisfaction with the Management Performance	
6	Helping With Holding Online Classes	Determining an Educational Program Curriculum
7	Introducing Modern and Useful educational Equipment	
8	The Required Changes in the Current Syllabus	
9	Introducing New Sources	
10	Increase of Language Learners' Participation and sense of Cooperativeness	Market Research
11	Providing Solutions to Problems	
12	Personal Referral	
13	Deductive Research	
14	MIS Promotion	
15	Implementation of War Game	Advertising
16	Marketing Intelligence	
17	Increase of Empathy among Employees and Language Learners	
18	Comparative Advertising	
19	Word-of-Mouth Marketing	
20	Infusing Advertising Messages	
21	Evaluation and Improvement of Brand Position	
22	Outsourcing Online Advertising	Market Development
23	Relationship Marketing	
24	Increase of Language Learners' CLV	
25	Internal Marketing	
26	The revival of Latent and Seasonal Demand	
27	Helping with Cross-Selling	

It is worth it of note that in the primary model among reporters about the promotion of MIS positioning situation whether to be placed in the sub-criterion market research or determining the educational program, there was a discrepancy which was finally considered as a sub-criterion for the market research. Also, sub-criteria such as gathering information from customers perception, estimating the current and future demand, and ambush marketing were respectively eliminated from the criteria of performance evaluation, market research, and market development. Also, asterisked cases have been uniquely identified as related to the education industry. Considering the acquired codes and themes analysis, the conceptual model of figure (1) was formulated.

### The Quantitative Part of the Research (Ranking)

To enable the DEMATEL method to be appropriate for solving multi-person and multi-criteria decision-making problems in fuzzy atmospheres, it is required to make an extended crisp

DEMATEL Method by putting linguistic variables in the application (Lin & Wu, 2004). Indeed, to handle the ambiguity and errors of human assessments, the decision-makers' priorities are expanded to fuzzy numbers by utilizing the fuzzy linguistic scale.

Therefore, by fuzzy triangular number adaptation, a fuzzy DEMATEL exertion will be positioned by mentioning various degrees of impacts or casualties in crisp DEMATEL, with five linguistic terms which are identified as Very High, High, Low, Very Low and No and their relevant positive triangular fuzzy numbers (Lin and Wu, 2004). The Linguistic terms are given in Table (4).

**Table 4.** The Relevance of Linguistic Terms and Values

Linguistic Terms	Linguistic Value
Very High Influence	(0.75, 1.0, 1.0)
High Influence (H)	(0.5, 0.75, 1.0)
Low Influence (L)	(0.25, 0.5, 0.75)
Very Low Influence (VL)	(0, 0.25, 0.5)
No Influence	(0, 0, 0.25)

For the next step, every general manager was asked to make the pairwise relationships among each pair of subjective  $O = \{O_i = 1, 2, \dots, k\}$ . On the other hand, if the interviewee says objective  $O_{10}$  has Very High Influence (VH) on  $O_5$ , he indicates that his priority for the casual relationship among two strategic objectives. In fact, during this procedure, all individual priorities and assessments about the casualties among all pairs of objectives are assessed using a fuzzy number assigning.

Normally this will become a fuzzy matrix which is given by  $\tilde{z}^p$  and also named Assessment Data Fuzzy Matrix. The same table will be filled out by all interviewees who have an important role in creating a strategy map in an organization. Truly, there are  $p$  fuzzy matrices which  $p = \{1, 2, 3, \dots, k\}$  is the number of the group of experts which dedicate all priorities and assigned casualties using triangular fuzzy numbers as its elements.

Subsequently, the interviewees' priorities must be collected and averaged using

$$\tilde{z} = \frac{(\tilde{z}^1 \oplus \tilde{z}^2 \oplus \dots \oplus \tilde{z}^p)}{p}$$

Then fuzzy matrix  $\tilde{z}$  is produced, which is given below:

$$Z^k = \begin{matrix} C_1 \\ C_2 \\ \vdots \\ C_n \end{matrix} \begin{bmatrix} [0,0] & \otimes z_{12}^k & \dots & \otimes z_{1n}^k \\ \otimes z_{21}^k & [0,0] & \dots & \otimes z_{2n}^k \\ \vdots & \vdots & \ddots & \vdots \\ \otimes z_{n1}^k & \otimes z_{n2}^k & \dots & [0,0] \end{bmatrix}$$

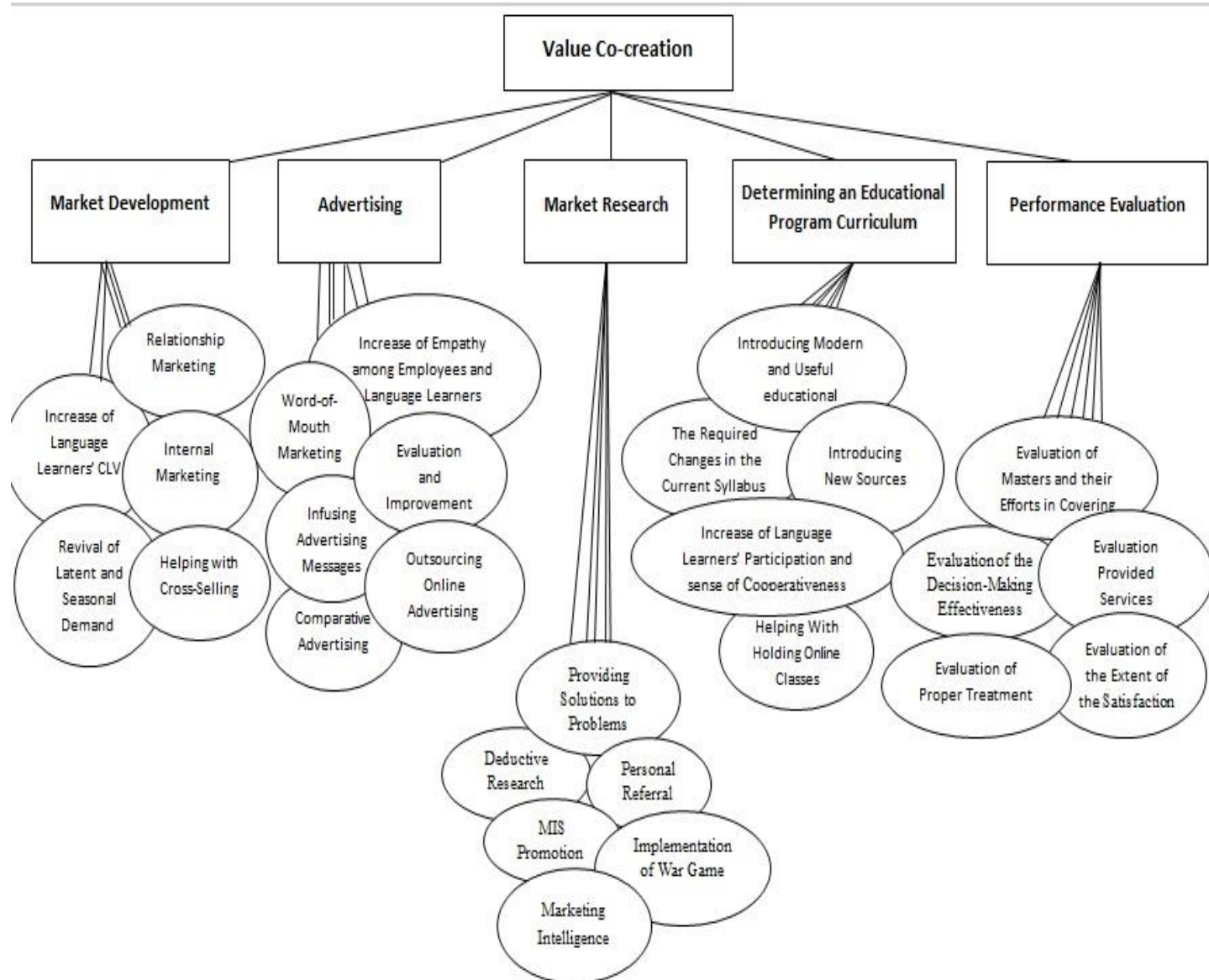
That is named initial direct-relation fuzzy matrix in which  $\tilde{z}_{ij} = (l_{ij}, m_{ij}, u_{ij})$  are called triangular fuzzy numbers and  $\tilde{z}_{ij} = (i = 1, 2, 3, \dots, n)$  will be considered as fuzzy triangular numbers (0,0,0) when it is of necessity.

Then through the normalization process of the initial direct-relation fuzzy matrix, the normalized direct-relation fuzzy matrix  $\tilde{T}$  is made up.

It is assumed that one  $i$  is at least such that  $\sum_{j=1}^n u_{ij} < r$ .

After the computation of abovementioned matrices, the total-relation fuzzy matrix  $\tilde{T}$  is computed (Lin and Wu, 2004). By the production process of matrix  $\tilde{T}$ , then is calculated  $\tilde{D}r + \tilde{R}r$  and  $\tilde{D}i - \tilde{R}i$  in which  $\tilde{D}i$  and  $\tilde{R}i$  are respectively the sum of rows and also the sum columns of  $\tilde{T}$ .

To finalize the process, all the calculated  $\tilde{D}r + \tilde{R}r$  and  $\tilde{D}i - \tilde{R}i$  are put in the defuzzification process its method. Then, there a set of two of numbers  $(\tilde{D}r + \tilde{R}r)$  def showing importance of strategic objectives and  $(\tilde{D}i - \tilde{R}i)$  def indicating that each strategic objective is the cause and which effect. In general, if the value  $(\tilde{D}i - \tilde{R}i)$  def is positive, the objectives are belonged to the cause group and also if the value  $(\tilde{D}i - \tilde{R}i)$  def is negative, the objective belongs to the effect group (Jassbi et al., 2011).



**Figure 1.** The Primary Conceptual Model of Value Co-creation Fields and Mechanisms

In this section, the DEMATEL matrix was provided to 12 experts to determine the effect of each criterion on the other criteria based on the range 0-4. The respondents' comments were then merged. The results are given in Table (5).

**Table 5.** Criteria Direct-Relation Matrix

Macro Factors of Value Co-creation	Performance Evaluation			Determining an Educational Program Curriculum			Market Research			Advertising			Market Development		
	L	M	U	L	M	U	L	M	U	L	M	U	L	M	U
Performance Evaluation	0	0	0.25	0	0	0.25	0.25	0.5	0.75	0.5	0.75	1	0.75	1	1
Determining an Educational Program Curriculum	0.75	1	1	0	0	0.25	0.5	0.75	1	0.75	1	1	0.75	1	1
Market Research	0	0	0.25	0	0.25	0.5	0	0	0.25	0	0.25	0.5	0.5	0.75	1
Advertising	0.75	1	1	0.5	0.75	1	0.75	1	1	0	0	0.25	0	0.25	0.5
Market Development	0.5	0.75	1	0.75	1	1	0.25	0.5	0.75	0.25	0.5	0.75	0	0	0.25

### Normalization of the Direct-Relation Matrix

In this step, we normalize the direct relation matrix of Table (5). In order to normalize, the maximum total line of the upper limits of the direct relation matrix must be obtained, which in this section is equal to 4.25. Then we divide all the numbers in the direct relation matrix (Table 5) by 4.25. The result is given in Table (6).

Table 6. Criteria Direct-Relation Normalized Matrix

	Performance Evaluation			Determining an Educational Program Curriculum			Market Research			Advertising			Market Development		
	L	M	U	L	M	U	L	M	U	L	M	U	L	M	U
<b>Performance Evaluation</b>	0.00 0	0.00 0	0.059	0.00 0	0.00 0	0.59	0.059	0.18	0.176	0.18	0.176	0.235	0.176	0.235	0.235
<b>Determining an Educational Program Curriculum</b>	0.176	0.235	0.235	0.000	0.000	0.059	0.18	0.176	0.235	0.176	0.235	0.235	0.176	0.235	0.235
<b>Market Research</b>	0.00 0	0.00 0	0.59	0.00 0	0.59	0.18	0.00 0	0.00 0	0.059	0.00 0	0.059	0.18	0.18	0.176	0.235
<b>Advertising</b>	0.176	0.235	0.235	0.18	0.176	0.235	0.176	0.235	0.235	0.00 0	0.00 0	0.059	0.00 0	0.059	0.18
<b>Market Development</b>	0.18	0.176	0.235	0.176	0.235	0.235	0.059	0.18	0.176	0.059	0.18	0.176	0.00 0	0.00 0	0.059

### Creating and Analyzing Causative Diagrams

In this step, we get the sum of rows (D) and the sum of columns (R) of the total relation matrix. And then we calculate the values of  $D + R$  and  $D - R$ . In this phase, Equation 3-17 is used for the values defuzzification. The results are given in Table (7).

In Table (7), the sum of the elements of each row (D) indicates the effect of that factor on other factors in the system. Accordingly, market development has the most significant impact. The sum of the elements of the column (R) for each factor indicates the degree to which that factor is affected by other factors in the system. Accordingly, market research is very influential

The horizontal vector ( $D + R$ ) is the degree of influence of the desired factor in the system. In other words, the higher the  $D + R$  factor, the more it interacts with other system factors.

Accordingly, market development has the most interaction with other studied factors. The vertical vector ( $D - R$ ) indicates the power of each factor. In general, if the  $D - R$  is positive, the variable is a

cause variable, and if it is negative, it is a disability. In Table (7), the cause and effect of the criteria are specified. It is also clearly seen in Figure (2).

**Table 7.** Table of values of D and R criteria

Ranking the Impact Intensity of Macro Factors	D			R			Defuzz y R	Defuzz y D	D+R	D-R	Rank by D	Rank by D+R	Rank by D-R
	L	M	U	L	M	U							
Performance Evaluation	0.750	1.585	4.482	0.577	1.315	4.180	15.24	14.90	30.14	0.34	4	5	4
Determining an Educational Program Curriculum	0.497	1.230	3.949	1.028	2.214	5.350	14.61	17.14	31.76	2.53	2	3	1
Market Research	0.661	1.597	4.786	0.202	0.813	3.362	17.60	13.52	31.11	4.08	5	4	5
Advertising	0.574	1.455	4.482	0.729	1.680	4.766	16.90	17.01	33.91	0.10	3	2	3
Market Development	0.768	1.736	4.802	0.716	1.672	4.844	16.88	17.43	34.31	0.55	1	1	2

**Figure 2.** Causative Diagram of Criteria

## Discussion

Regarding the identified fields and mechanisms, with all the diversity and literature and differences that the education industry had with other service Industries, finally, five main fields and 27



mechanisms which counted as a subcategory of fields were attained. After all, the positioning situation of some mechanisms was questioned, which was finally classified following the consensus of reporters. Respectively, fields and mechanisms are as the above table.

Education has been engaged with students for a long time. Value co-creation is more known as a marketing and management strategy which possesses the consumers' source for shared co-creation of new and innovative values.

From a viewpoint, the educational experience could be considered as a set of small samples of interaction and experiences which all possess the potential of influencing the overall value of students. Institutions can investigate students' feedback by value co-creation, which helps them with evaluating the current realities, planning for important future challenges and identifying enduring weaknesses. Although institutions with the admission of a diverse population of students can also participate in identifying the part of the market which has proved important in newer marketing strategies, by the analysis of the distinct student population, Institutions that with market segmentation can identify exclusive needs of various groups and perceive the part probably better than the rivals.

Consequently, many studies have demonstrated that granting permission to institutions and students for establishing relations and corporation, the value co-creation bridges which had already been segregated from asymmetric knowledge and information of users and producers, have been constructed that is a value between producers and consumers. Information-sharing is the part of the customer knowledge sources in producing services. This participatory behavior is strictly necessary within the service process because it helps the service employees and producing services which meet the customer's needs.

After interviewing experts and the extent of their consensus, we arrived at 27 mechanisms which have been categorized in 5 different fields. It is deserving of note that Language Learners and clients in the following text, are the same customer/consumer which have been addressed by the technical word of the education industry. Furthermore, the attempt was aimed at the fact that categorized and named fields have close proximity in terms of categorization with their subcategories which, considering the vastness of topics, it may not have been well observed in some cases. Also, in all fields and mechanics mentioned the stated people can relatively aid with

better implementation of them and will not play as the main actor in decision making which the idea of value co-creation is demonstrative of.

### **The first stated Field is Market Development.**

Given the keen competition in the non-state education industry as well as increasing growth, the need for market development is sensed more deeply. This important matter will be certainly feasible via the corporation among personnel, Language Learners and clients with the consideration of the current atmosphere in Iran. For this reason, there is a necessity to have a systemic category for developing value co-creation.

In the view of Institutions' activities for maintaining and developing a mutual relation between Language Learners, they have unconsciously taken steps toward value co-creation. Activities such as maintaining a mutual relation even in non-classroom hours through different ways holding ceremonies, celebrations and various social activities for developing a friendly relationship with Language Learners and parents are all indicative of efforts in creating a systematic relationship.

Finally, the relationship between Language Learners, clients, and personnel will be possible in case of domestic consistency and unity in the Institution (Internal Marketing). Therefore, non-state centers and Language Institutions, using different ways such as having personnel participate in key and management decisions, giving better financial support to distinguished masters and holding various get-togethers on special occasions like masters' birthdays, etc., attempt thing domestic and internal loyalty and consistency which in case of developing this case, the development of friendly relationships with clients and Language Learners will be easier. Naturally, it is conducive to more permanence of Language Learners institutions with the consideration of language learning conditions institutions which the process of learning and reaching higher levels require spending a long time which has impelled Institutions to run circles around their rivals and acquire a considerable share of the market in the direction of keeping Language Learners and attracting Language Learners in other centers using different means like providing cash research, presenting non-cash privileges, applying expert and experienced masters, providing suitable educational and environmental facilities. That is why successful Institutions, considering this matter, unintentionally result in an increase of CLV, which can be an appropriate model for others.

The confluence of stated efforts has been conducive to having a great wave of enthusiasts to learn a new language in Iran. It has been feasible because of the efforts made by all Institutions. It has led to a sense of need in people which given that a noticeable percentage are unwilling to learn a second language can be enhanced further than the past through united and consistent cooperation of Institutions in the form of co-competition.

### **The Second Stated Field is Advertising**

Logically, even tight competition in this industry, advertising activities will grow broader and vaster. In the reigning atmosphere of Iran and taking account of friendship and proximity of social relationships, Word-of-Mouth advertising has escaped the education managers' notice. With the promotion of educational productivity, the increase of domestic/internal satisfaction and Language Learners' satisfaction, managers can provide the conditions in order that the stated people themselves do Word-of-Mouth marketing. Today, Iranian Institutions' advertising is more in the form of billboards, online and phone advertising have lost their effectiveness due to their repetitiousness and lack of their creativity. Therefore, successful Institutions, by developing innovations like comparing the weaknesses of rival Institutions their own weaknesses(Comparative Advertising), have attempted attacks at rivals, enfeebled them to a greater extent, and enhanced their own performance. On the other hand, institutions try to induce advertising messages and also improved their brand by inspiring their loyal Language Learners. Suppose that the Institution has held an eye-catching ceremony and praise and transfer of this beauty by Language Learners in schools and other gatherings result in the infusion of the institutions desired message and motto and also the Improvement of brand image. Taking into account the pervasiveness of online advertising and the need to share advertising posts, institutions recognize Language Learners as the best media available to them for sharing information and outsourcing activities.

### **The Third Stated Field is Market Research**

Taking into consideration that institutions can use their volunteers and loyal Language Learners as committed force, hereupon, successful institutions hold Thinking Rooms and brainstorming assemblies in order to express thoughts, current field data and rumors related to Institution and rivals. Such a way of information-expression ushers in gaining information about the daily activities of rivals (Market Intelligence), attaining information about possible responses of rivals

(War Game), resolving the Institutions' current problems, as well as promoting Institution's MIS system as an inseparable segment of the current era's management.

As mentioned, in thinking rooms, new attempts are made at finding solutions to the current problems. Successful Institutions perform such activity for increasing the satisfaction and salient participation of Language Learners. The greater increase of that is conducive to having a series of Language Learners with absolute loyalty that can also deal with personal referrals.

### **The Fourth Field is the Educational Program/Curriculum**

With dynamics of Language, especially common international languages and vastness of educational resources and recurrent publication of new sources, Language Institutions try to keep their educational program up-to-date and also education management investigate to make the best choice of sources. However, attaining information on its extent of satisfaction and effectiveness regardless of Language Learners is certainly not possible. Therefore, institutions try to collect potential feedbacks and suggestions.

When transcribing this research, unfortunately, the world is affected by Covid-19 pandemic, which has led to the lockdown of almost all businesses as well as the education industry in Iran. However, the institutions already are active on internet activities, and online education have managed to carry on regardless to this end, for managing the severe condition, institutions have used high-level students to aid the masters. This work does a lot to help the language learners to get prepared for their future TTC (Teachers Training Course) classes.

### **The Last stated Field is Performance Evaluation**

For ongoing improvement of services provided by the Institution, assembling information from the clients and Language Learners' feedback is essential. Institutions carry it out by their education forces, but volunteer students' aid will undoubtedly be a major contribution to the ongoing provided services.

Also, satisfaction assessment of the management and executive personnel treatment are among the issues and proposes purposes of successful Institutions. If there is no satisfaction, many programs, strategies, and determined purposes will go no-were. Also, the Institution will face a considerable decline of Language Learners in the wake of that will lose its market share and weaken against its

rivals. To this end, the Institution handles the situation by holding online and in-person surveys, gathering information from schools and also obtaining information from reference groups.

### **Suggestions**

Given that the fields and identified mechanisms are specific to the education industry especially Foreign Language Institutions, following are for masters and managers on how to make use of the fields and mechanics in different foreign language institutions:

- Utilizing Language Learners' participation in the Institution's performance evaluation program is suggested.
- Mechanisms to be considered in performance evaluation of a foreign language institution includes evaluation of masters and their efforts in the full coverage of syllabus, assessment of the extent of satisfaction with the management way, assessment of provided services, appraisal of proper treatment and evaluation of the extent of decisions effectiveness.
- Language Learners can be best respondents in performance evaluation and Identification of the present gaps.
- In evaluating the performance, various ideas desired by Language Learners should be used not merely evaluating in order to grant rights and rewarding systems.
- Adopted decisions bear long-term effects on the organization; it is better to be taken into account. Language Learners and clients are the best people to inform the management board about the outcomes of their decisions.
- In determining the educational programs, using the Language Learners participation is suggested.
- Customers can keep the managing/executive board posted sooner than useful technologies in this industry.
- Taking account of changing features of Language Learners (customers), more significant employment of modern equipment and information technology recommended
- New sources can be introduced to teach by Language Learners, or even they might have ideas about the teaching methods and current syllabus that can put you ahead of your rivals.
- Applying modern educational equipment and the newest sources which are reliable and well approved
- Invitation of language Learners to cooperate and participate in conducting market research is suggested

- In value co-creation in the education industry and field of market research, performing War Game can be employed in which Language Learners' participation is noticeable
- Language Learners creative ideas and solutions can be applied for numerous problems in the Institutional Industry
- Language Learners as customers are continually circulating in the market, and if there is the development of empathy, they will help you and will keep you informed on the material which is not easily accessible.
- It is recommended to promote MIS with the cooperation of loyal Language Learners
- There will be a variety of advertisements applicable through the cooperation of Language Learners, which will bear optimal results. A case in point is Word-of-Mouth marketing which a Language Learner does about your Institution in the studying place (school/university) and workplace. It is possible by institutions' systematic effort in creating satisfaction in Language Learners and clients. Note that Word-of-Mouth marketing is the upshot of satisfaction with the Institution, which inspires the customers to do so.
- Language Learners can pursue and carry-out the Institution's strategies/tactics of comparative advertising more purposefully and efficiently by giving them various incentives and encouragements by the executive board.
- Also, messages stated by Language Learners will be more effective and appealing because of their practical aspect. The chances for success for infusing these messages without customer participation are a few.
- Advertising expenses in value co-creation decline markedly. Because the satisfied and loyal customer will do a considerable part of that; thus, it is better to apply this mechanism for minimizing advertising costs.
- The brand image, which is created by Language Learners is more effective. Hereupon, value co-creation can build up an Institutional brand image that which is highly effective.
- Customer Participation is paid special attention to Market Development. If they participate, they can inform you about many of their own and their peers' latent needs which will not be accessible or not easily accessible for you by conducting expensive market research.

- Customer's participation in value co-creation results in an ability to sell your least sold services. For example, services like teaching languages other than English, Business Courses, etc. which are specific to unique Individuals, your brand can achieve sales in all services with the advertising that Language Learners do about your other services.
- In light of cooperation and empathy among employees and Language Learners, value co-creation is conducive to the development of internal marketing and greater permanence rate of your employees because of interest in Language Learners an emotional commitment to the organization. Every Institute also attempts to retain Language Learners' favorite employees, and masters in the organization, and accordingly, internal marketing receives attention.

### **Recommendations for Future Research**

Given the results of the study, the following are suggestions in this field:

- Differences of value co-creation fields and mechanisms in similar service Industries should be compared, and reasons are provided for that.
- This study should also be carried out about higher-education.
- Rivals' cooperation with each other for gaining interests, increasing the market size and maintaining shared interests is an appealing topic for research which is known as co-competition that was mentioned in the article.

### **Data availability statement**

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

### **Ethics statement**

The studies involving human participants were reviewed and approved by ethics committee of Tehran University.

### **Author contributions**

SS, MS and MF contributed to the study conception and design, material preparation, data collection and analysis. The author contributed to the article and approved the submitted version.

### **Funding**

The authors did (not) receive support from any organization for the submitted work.

### **Conflict of interest**

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.



## References

- Alves, H., & Raposo, M. (2010). The influence of university image on student behaviour. *International Journal of Educational Management*, 24(1), 73–85.
- Arnould EJ, Price LL, Malshe A (2006) Toward a cultural resource-based theory of the customer. In: Lusch RF, Vargo SL (eds) *The new dominant logic in marketing: dialog, debate and directions*. ME Sharpe, Armonk
- Ashforth, B. E., & Mael, F. (1989). Social identity theory and the organization. *Academy of Management Review*, 14(1), 20–39.
- Auh, S., Bell, S. J., McLeod, C. S., & Shih, E. (2007). Co-production and customer loyalty in financial services. *Journal of Retailing*, 83(3), 359–370.
- Baron, Steve and Kim Harris (2008), Consumers as Resource Integrators," *Journal of Marketing Management*, 24 (2), 113-30.
- Bettencourt LA (1997) Customer voluntary performance: customers as partners in service delivery. *J Retail* 73(3):383–406
- Brown, R. M., & Mazzarol, T. W. (2009). The importance of institutional image to student satisfaction and loyalty within higher education. *Higher Education*, 58(1), 81–95.
- Carvalho, S. W., & de Oliveira Mota, M. (2010). The role of trust in creating value and student loyalty in relational exchanges between higher education institutions and their students. *Journal of Marketing for Higher Education*, 20(1), 145–165.
- Chickering, A. W., & Gamson, Z. F. (1999). Development and adaptations of the seven principles for good practice in undergraduate education. *New Directions for Teaching and Learning*, 1999(80), 75–81.
- Claycomb C, Lengick-Hall CA, Inks LW (2001) The customer as a productive resource: a pilot study and strategic implications. *J Bus Strateg* 18(1):47–69
- Díaz-Méndez, M., & Gummesson, E. (2012). Value co-creation and university teaching quality: Consequences for the european higher education area (EHEA). *Journal of Service Management*, 23(4), 571–592.

- Dick, A. S., & Basu, K. (1994). Customer loyalty: Toward an integrated conceptual framework. *Journal of the Academy of Marketing Science*, 22(2), 99–113.
- Dijk, J., Antonides, G., & Schillewaert, N. (2014). Effects of co-creation claim on consumer brand perceptions and behavioural intentions. *International Journal of Consumer Studies*, 38(1), 110118.
- Douglas, J., McClelland, R., & Davies, J. (2008). The development of a conceptual model of student satisfaction with their experience in higher education. *Quality Assurance in Education*, 16(1), 19–35.
- Dutton, J. E., Dukerich, J. M., & Harquail, C. V. (1994). Organizational images and member identification. *Administrative Science Quarterly*, 39, 239–263.
- Elsharnouby, T. H. (2015). Student co-creation behavior in higher education: The role of satisfaction with the university experience. *Journal of Marketing for Higher Education*, 25(2), 238–262.
- Fisher, D., & Smith, S. (2011). Co-creation is chaotic: What it means for marketing when no one has control. *Marketing Theory*, 11(3), 325–350.
- Frasquet, M., Calderón, H., & Cervera, A. (2012). University–industry collaboration from a relationship marketing perspective: An empirical analysis in a Spanish University. *Higher Education*, 64(1), 85–98.
- Frow, P., Nenonen, S., Payne, A., & Storbacka, K. (2015). Managing co-creation design: A strategic approach to innovation. *British Journal of Management*, 26(3), 463–483.
- Gallarza, M.G. and Saura, I.G. (2020), “Consumer value in tourism: a perspective article”, *Tourism Review*, Vol. 75 No. 1, pp. 41-44
- Grönroos, C. (2008). Service logic revisited: who creates value? And who co-creates? *European Business Review*, 20, 298–314.
- Grönroos, C. and Voima, P. (2013), "Critical service logic: making sense of value creation and co-creation", *Journal of the Academy of Marketing Science*, Vol. 41, No. 2, pp. 133 150.
- Groth M, Mertens DP, Murphy RO (2004) Customers as good solidiers: extending organizational citizenship behavior research to the customer domain. In: Turnipseed DL (ed) *Handbook of organizational citizenship behavior*. Nova Science Publishers, Hauppauge

- Healey, M., Flint, A., & Harrington, K. (2014). *Engagement through partnership: Students as partners in learning and teaching in higher education*. York: HEA.
- Homayon F., Muhammadamin B., Safari Garaei M., Nojumi A., Sadikhani M., & Shirvani E. (2023). Structural model of academic engagement, rumination and cognitive-behavioral avoidance: mediating role of self-efficacy. *Iranian Journal of Educational Research*, 2 (2), 1-14. DOI: <http://doi.org/10.52547/ijer.2.2.1>
- Hoyer, W. D., Chandy, R., Dorotic, M., Krafft, M., & Singh, S. S. (2010). Consumer co-creation in new product development. *Journal of Service Research*, 13(3), 283-296.
- Humphreys, A., & Grayson, K. (2008). The intersecting roles of consumer and producer: A critical perspective on co-production, co-creation and prosumption. *Sociology Compass*, 2(3), 963–980.
- Humphreys, A., & Grayson, K. (2008). The intersecting roles of consumer and producer: A critical perspective on co-production, co-creation and prosumption. *Sociology Compass*, 2(3), 963–980
- Jaakkola E, Alexander M (2014) The role of customer engagement behavior in value co-creation: a service system perspective. *J Serv Res* 17(3):247–261
- Javad Jassbi, Farshid Mohamadnejad, Hossein Nasrollahzadeh, "A Fuzzy DEMATEL framework for modeling cause and effect relationships of strategy map", *Expert Systems with Applications*, Volume 38, Issue 5
- Judson, K. M., & Taylor, S. A. (2014). Moving from marketization to marketing of higher education: The co-creation of value in higher education. *Higher Education Studies*, 4(1), 51.
- Kuh, G. D. (2003). What we're learning about student engagement from NSSE: Benchmarks for effective educational practices. *Change: The Magazine of Higher Learning*, 35(2), 24–32.
- Lin, C.-L., & Wu, W.-W. (2004). A fuzzy extension of the DEMATEL method for group decision making. *European Journal of Operational Research*, 156, 445–455.
- Lusch, R. F., & Vargo, S. L. (2006). Service-dominant logic: Reactions, reflections and refinements. *Marketing Theory*, 6(3), 281–288.
- McColl-Kennedy, Janet R., Stephen L. Vargo, Tracey S. Dagger, Jillian C. Sweeney and Yasmin van Kasteren (2012), "Health Care Customer Value Cocreation Practice Styles," *Journal of Service Research*, 15 (4), 370-389.

- Michell, P., Reast, J., & Lynch, J. (1998). Exploring the foundations of trust. *Journal of Marketing Management*, 14(1–3), 159–172.
- Morteza Soltani, Gholamreza Jandaghi, Parisa Forouzandeh Shahraki , 2017, Co-Creation Intention; Presenting a Model of Antecedents and its Impact on Attitude Toward the Product, *Iranian Journal of Management Studies (IJMS)*
- Navarro-García, A., Peris-Ortiz, M., & Rueda-Armengot, C. (2015). Value co-creation, collaborative learning and competences in higher education. In M. Peris-Ortiz & J. M. Merigó Lindahl (Eds.), *Sustainable learning in higher education, innovation, technology, and knowledge management* (pp. 37–45). Springer International.
- Nguyen, N., & Leblanc, G. (2001). Corporate image and corporate reputation in customers' retention decisions in services. *Journal of Retailing and Consumer Services*, 8(4), 227–236.
- Perks, H., Gruber, T., & Edvardsson, B. (2012). Co-creation in radical service innovation: A systematic analysis of microlevel processes. *Journal of Product Innovation Management*, 29(6), 935–951.
- Pilon, F. and Hadjielias, E. (2017), “Strategic account management as a value co-creation selling model in the pharmaceutical industry”, *Journal of Business & Industrial Marketing*, Vol. 32 No. 2, pp. 310-325
- Pinar, M., Trapp, P., Girard, T., & Boyt, T. E. (2011). Utilizing the brand ecosystem framework in designing branding strategies for higher education. *International Journal of Educational Management*, 25 (7), 724–739.
- Pluijm, L. (2010). Realizing co-creation (Master's thesis). Tilburg University
- Prahalad, C. K., & Ramaswamy, V. (2000). Co-opting customer competence. *Harvard Business Review*, 78(1), 79–90.
- Prahalad, C. K., & Ramaswamy, V. (2004). Co-creation experiences: The next practice in value creation. *Journal of Interactive Marketing*, 18(3), 5–14.
- Ranjan, K. R., & Read, S. (2016). Value co-creation: Concept and measurement. *Journal of the Academy of Marketing Science*, 44(3), 290–315.
- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York: Free Press.
- Schertzer, C. B., & Schertzer, S. M. (2004). Student satisfaction and retention: A conceptual model. *Journal of Marketing for Higher Education*, 14(1), 79–91.

- Schlesinger, W., Cervera, A., & Iniesta, M.Á. (2015). Key elements in building relationships in the higher education services context. *Journal of Promotion Management*, 21(4), 475–491.
- Schlesinger, W., Cervera, A., & Pérez-Cabañero, C. (2017). Sticking with your university: The importance of satisfaction, trust, image, and shared values. *Studies in Higher Education*, 42(12), 2178–2194.
- Sin, S., & McGuigan, N. (2013). Fit for purpose: A framework for developing and assessing complex graduate attributes in a changing higher education environment. *Accounting Education*, 22(6), 522–543.
- Soohoo, S. (1993). Students as partners in research and restructuring schools. In *The educational forum* (Vol. 57, No. 4, pp. 386–393). Taylor & Francis Group.
- Sumsion, J., & Goodfellow, J. (2004). Identifying generic skills through curriculum mapping: A critical evaluation. *Higher Education Research & Development*, 23(3), 329–346.
- Sung, M., & Yang, S. U. (2008). Toward the model of university image: The influence of brand personality, external prestige, and reputation. *Journal of Public Relations Research*, 20(4), 357–376.
- Terenzini, P. T., Pascarella, E. T., & Blimling, G. S. (1996). Students' out-of-class experiences and their influence on learning and cognitive development: A literature review. *Journal of College Student Development*, 37, 149–162.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89–125.
- Tuan, L.T., Rajendran, D., Rowley, C. and Khai, D.C. (2019), “Customer value co-creation in the businessto-business tourism context: the roles of corporate social responsibility and customer empoweringbehaviors”, *Journal of Hospitality and Tourism Management*, Vol. 39, pp. 137-149
- Umbach, P. D., & Wawrzynski, M. R. (2005). Faculty do matter: The role of college faculty in student learning and engagement. *Research in Higher Education*, 46(2), 153–184.
- Van Vught, F., & Westerheijden, D. F. (2010). Multidimensional ranking. *Higher Education Management and Policy*, 22(3), 1–26.
- Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68(1), 1–17.

- Vargo, S. L., & Lusch, R. F. (2008). Service-dominant logic: Continuing the evolution. *Journal of the Academy of Marketing Science*, 36(1), 1–10.
- Vargo, S. L., Maglio, P. P., & Akaka, M. A. (2008). On value and value co-creation: A service systems and service logic perspective. *European Management Journal*, 26(3), 145–152.
- Verhoef, P.C., Reinartz, W.J., & Krafft, M. (2010). Customer engagement as a new perspective in customer management. *Journal of Service Research*, 13, 247–252.
- Von Hippel, E. (2009). Democratizing innovation: The evolving phenomenon of user innovation. *International Journal of Innovation Science*, 1(1), 29–40.
- Yi Y, Gong T (2013) Customer value co-creation behavior: Scale development and validation. *J Bus Res* 66:1279–1284
- Yi Y, Natarajan R, Gong T (2011) Customer participation and citizenship behavioral influences on employee performance, satisfaction, commitment, and turnover intention. *J Bus Res* 64(1):87–95
- Zwass, V. (2010). Co-creation: Toward a taxonomy and an integrated research perspective. *International Journal of Electronic Commerce*, 15(1), 11–48.