

Identification of the Factors Affecting Brand Value Co-Creation with Customers in Iranian Dairy Industry

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Abstract

Value co-creation with customers is of great significance in firm branding. The study presented a model of brand value co-creation in the dairy industry. The study was based on empiricism philosophy that was carried out using the deductive-inductive approach. The study was fundamental concerning the purpose that was conducted using a mixed-method. The population was marketing professors and managers with work experience in the dairy industry. The sampling method was non-probability and purposive. Data collection tools were interviews and questionnaires. Grounded theory was used the analysis of specialized interviews. The identified indices were validated using the fuzzy Delphi method. Finally, the final model of the study was presented. Data analysis in the qualitative phase was done in MaxQDA software and in the quantitative phase in MATLAB software. By analyzing the interviews with experts, a set of applied indices of brand value co-creation were identified to reach the study goals. The results indicated that the brand value co-creation strategy is the basic element of the research model directly affecting the organizational value co-creation. Moreover, this organizational knowledge management strategy affects strategic value co-creation and value co-creation with employees. Finally, value co-creation with customers increases the brand's competitive capability. Company, customers and the ecosystem goals in the dairy industry can be reached through brand value co-creation with customers.

Keywords: Dairy Industry, brand, brand value co-creation, brand competitiveness, brand value co-creation with the customer

INTRODUCTION

Value co-creation with customers has to do with the highest level of customer involvement in designing and producing products and services, which calls for the customer collaboration in the process of producing and delivering a company's products and delivery of more innovation to gain more value. The value co-creation process gradually does away with the pure company-centric approach and emphasizes communicating and interacting with customers [1]. In value co-creation approach, continuous communication and interaction between the customer and the company are managed such that ultimately, on the one hand, the company is encouraged for value co-creation with customers and the customer needs are met on the other [2]. Based on brand value co-creation theory, organization managers have to admit to leave some part of their control over the branding process and delegate it to their customers, so that they can create a positive image of their brand in the target community [3].

In the process of brand value co-creation, the role of the organization employees has to be considered besides the customer role. Although organization managers have an indispensable role in branding and brand value co-creation process, organization employees, especially the ones in direct relation to the customers, have a significant role in branding

success [4]. Moreover, one has to note that besides the three factors of customers, managers, and employees, other factors like a brand symbol and the physical appearance affect brand value co-creation [5]. Clustering and forming customer relationship network are other key factors for brand value co-creation with customers. Clustering in creating shared value is a form of marketing or business strategy that places emphasis on the continuous creation and recognition of company and customer shared values. In this approach, markets are considered as a context where the companies and customers combine and modify each other's resources and

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capabilities to share more value through new learning, communication and service delivery mechanisms [6].

Branding by value co-creation could alter the capitalism form and its connection to society. Value co-creation can be the propellant of the next wave of productivity growth and innovation in the global economy. The shared value opens up new horizons for managers and focuses on issues like great human needs that have to be met, large new markets, internal costs arising from social shortages, and the competitive advantages in contact and relationship with them. Undoubtedly, the brand value co-creation approach differs from the traditional approach where the companies produce goods and services regardless of customer collaboration. The value from shared creativity encompasses a unique and personalized customer experience and helps the company enhance its learning and market performance by enhancing communication, loyalty and marketing word of mouth [7, 8].

Brand value co-creation with customers is of great significance in the branding strategy of dairy companies. Although several studies have been conducted on designing brand value co-creation model in various parts of the world, no specialized studies have been conducted on the pattern on value co-creation with customers in the dairy industry. Thus, as brand value co-creation in the companies that are active in the dairy industry needs to identify the underlying factors in this area, the study seeks to identify the main categories of brand value co-creation and the final indices of brand value co-creation monitoring in the Iranian dairy industry to present a model in this regard.

Theoretical foundations and background

Value co-creation refers to marketing movement towards service-centric logic. The focal point of the logic of service dominance is that the value can only be created between the company and its stakeholders in every aspect of the supply chain. According to this principle, customers could have a key role in creating value for the organization. However, despite the increasing studies on customer value co-creation, few of them are generally focused on creating shared corporate value [9]. Robson (2019) [10] argues that the requirement for brand value co-creation by employees calls for some form of culturing and cultural change management. Factors affecting this process are time and accuracy. As the current values have been inadvertently institutionalized by reinforcing past behaviors, the new values should turn into behaviors in a highly purposeful way [10].

The main source of brand value creation is in the minds of potential customers. Thus, focusing on something other than the customer's mind would be wrong in improving brand status. This has led to the introduction of the concept of brand value co-creation. The results of previous studies show that brand experience and its management are of the factors affecting customer participation in branding that will ultimately lead to brand value co-creation. Indeed, customer experience management involves well-tested steps that help

companies to evaluate, design, measure, and execute customer-centric overhead, and this is nothing more than customer involvement in the brand value co-creation process [11].

In the literature and the different models proposed in relation to brand value co-creation, great attention has been paid to the significance of front-line employee performance in value co-creation with the customer. While organization managers have an undeniable role in the branding and brand value creation process, employees, especially the ones directly related to customers, have a great role in branding success. Indeed, employee behavior can guarantee the success of a brand or cause its failure. The employee commitment, as well as their level of empowerment, is largely determined by brand value. Understanding the brand and sharing it with customers by employees aligns employee activities with brand goals. This shows the significance of transferring brand value from the organization to the customer through the mediating role of employees [12].

Saini 2019 introduces the brand experience as a specialized term used to describe the perception and overall image of a potential consumer of a brand and argues that the brand image is the customer experience of the brand that comes from advertising, user experience, reporting or other consumer interactions and encounters that result from contact points like social networks, websites, sales forces [13].

Lemon 2016 has introduced customer experience as a growing priority for the competitive market. Customer experience is of great significance in deciding to purchase sustainability in today's competitive business environment. Indeed, the concept of customer experience is used as an optimal strategy to gain competitive advantage [14].

Chiu *et al.* (2019) studied customer value co-creation and its effect on customer trust and satisfaction and purchase intention to present a conceptual model. The results showed that customer value has a positive effect on customer satisfaction value and thus customer loyalty. Moreover, perceived value has a positive effect on satisfaction. Although the direct effect of customer value on retirement intention has not been observed, the indirect effect of customer citizenship behavior with perceived value and satisfaction with the intention to retire has been shown [15].

Zaborek (2019) examined the value co-creation with customers and performance incentives in small and medium-sized enterprises. The results indicated that building productive collaboration results in positive operational and financial results for service providers and manufacturers. Overall, collaboration is achievable only when it has a positive effect on service companies towards producers. This empirical comparison of the effects of creators' use of collaboration by manufacturers and service providers provides key insights into value creation theory and supports managers in selecting their tools for interacting with customers [1].

Ahn (2019) carried out a study entitled the empirical brand value to co-create brand value in the hoteling industry. The purpose of the study was to present a new framework to explain the effect of empirical brand value on the customer perspective, customer behavior, and customer-based brand value co-creation. The results indicated that the empirical value aspects of the brand have various effects on customers' views and behavior for brand value co-creation. Interaction, knowledge sharing, and respondents' views have a significant effect on the voluntary behavior of customers to participate in brand value co-creation [16].

In a study for examining the relationship between trademark ethical perceptions of emotional attachment to the brand, as well as brand loyalty and brand choice goals, Garanti (2019) studied the mediating role of brand emotional attachment in the ethical understanding of ethical brand and loyalty to the brand and the relationship of choice goals. The results showed that ethical brand perception has a positive effect on emotional attachment to the brand as well as brand loyalty. In contrast, the ethical perception of the brand does not affect brand choice goals. Emotional brand attachment is positively related to brand loyalty and brand choice goals, which is a mediator in ethical brand perception and brand loyalty and brand choice goals relationship [17].

France (2018) examined the significance of customer behavior in brand value co-creation to conceptualize, model, and validate a customer-based brand value co-creation model. The results show that customers may have a significant role in brand value co-creation through three main areas including feedback, consulting, and helping company managers. Moreover, the interaction between the employees and customers is a significant factor in creating brand value for the customer. Overall, the results show the central role of the customer in creating a permanent value for the brand [5].

Kamboj (2018) studied the creation of customer-based brand awareness in online communities and e-business. In this study, the researcher has examined the basics of brand value co-creation in the field of e-commerce, including customer incentives to enter online communities, customer engagement, brand trust, and brand loyalty. The results have shown that customer incentive to enter online communities has a positive and significant effect on customer participation. Customer participation has a direct effect on brand loyalty and trust as well. Finally, brand trust and brand loyalty have a positive and significant impact on brand value elements in the field of e-businesses. Furthermore, brand trust has a role in mediating the relationship between customer engagement in online communities and brand loyalty. Customers' entry into online communities is the first step in creating customer-based brand value in the online space [18].

In a study to examine the effect of social media on customer loyalty with the mediating role of value of customer engagement and creating a model of customer engagement through the value of collaboration created, Herman (2018) shows that products should be tailored to the needs and

desires of the customer and thus improve customer development and ultimately increase customer loyalty.

Research objectives and questions

The purpose of the study was to present a brand value co-creation model with the customer in the Iranian dairy industry.

In line with this goal, the following sub-goals are pursued:

- Identifying the factors affecting brand value co-creation with customer in Iran dairy industry
- Introducing the model ruling the relationships between brand value co-creation with the customer in the dairy industry

Given the goals stated, the research questions are as follows:

- What are the indices affecting brand value co-creation with the customer in the Iranian dairy industry?
- How is the causal relationship between the underlying factors of brand value co-creation with the customer in the Iranian dairy industry?

METHOD

The study was fundamentally conducted with a deductive-inductive approach. Concerning data type, the study had a mixed approach and a cross-sectional survey in terms of data collection time. The main data collection tools were semi-structured interviews and questionnaires. The spatial domain of the study was the Iranian dairy industry in 2019. The population was theoretical experts (university professors) and experimental experts (dairy industry managers). The sample size in the studies conducted using the qualitative method and interview is usually recommended to be 5 to 25 people. Overall, the interview process continues in qualitative analysis continues until reaching theoretical saturation [19]. Non-probability and purposive methods have been recommended for expert sampling. The sample of the study in the qualitative section was 11 people selected using purposive and snowball methods. Unstructured interviews were used to collect the research data and a questionnaire was used in the quantitative part. Holstein coefficients, Scott's pi coefficient, Cohen's kappa coefficient (κ) [20] and Krippendorff's alpha (α) were used to determine the validity and reliability of data collection tool and to evaluate credibility, transferability, verifiability, and reliability. Grounded Theory was used to identify the main and sub-themes of designing brand value co-creation modeling and to analyze the data in the qualitative section. Then the indices were validated and finally, the identified indices were validated using the fuzzy Delphi method. MaxQDA software was used for analyzing qualitative data and extracting categories and coding in the Matlab environment for fuzzy Delphi calculations.

RESULTS

Descriptive results

The population of the study in the qualitative section was all dairy industry experts with a degree in marketing

management - at least a postgraduate degree - at least ten years of experience in dairy industry marketing, and at least five years of management experience in the dairy industry. Accordingly, 11 people were selected to choose the sample from the experts with these conditions (Table 1).

Table 1: Sample in the qualitative section

Expert Index	Symbol	Condition	Eligible experts
The relevant experience	α	Over 15 years of experience	22
Level of Education	β	Graduate	16
Final experts	$\alpha \cap \beta$	Over 15 years of experience and postgraduate degree	11

Analytical results

Specialized semi-structured expert interviews were conducted with dairy industry experts to provide a model of brand value co-creation in the dairy industry. At this stage, seven open-ended questions (Table 2) were considered before the interview and it was predicted that new questions would arise during the interview process. The data was reread repeatedly and actively (searching for meanings and patterns) to make the researcher aware of the depth and breadth of the data content.

Table 2: Interview questions

Row	Research questions
1	How do you evaluate the relationship between trust and commitment to customer motivation?
2	How do knowledge and skills affect customer value co-creation?
3	How do you evaluate the effect of creativity and dependence on customer-owned resources?
4	How is increasing the value of customer engagement in brand value co-creation possible?
5	Explain the value co-creation in the dairy industry.
6	Explain brand value co-creation.
7	What are the underlying factors of brand value co-creation with the customer in the dairy industry?

Expert ideas in responding to research questions were analyzed using clustering techniques. The results of the three-level categorization of research indices are presented in Table 3. The results of the analysis of interviews using MaxQDA software identified 517 indices in the coding stage, which were presented as 59 units based on the considerations.

Table 3: Three-level clustering of the indices presented in the interviews

Category clusters	Level 2 categories	Level 1 categories	
Strategic value co-creation	Employee recruitment	Recruiting people with the skills and experience Meritocracy	
	Products and Services	Customer demand based product development and branding New product development	
	Implementing organizational culture	Increasing service development skills Creating a culture of teaching and learning	
	Skill and technology	Strengthening communication skills Increasing the competitiveness and survival of the organization Using the updated technology	
	Using knowledge and programming	Creating security by relying on brand value creation capabilities Marketing skills Developing long-term plans for brand value co-creation	
Organizational value co-creation	Considering the role of individuals	Knowledge structure Focus on the key role managers have regarding the stakeholders in the dairy industry	
	Considering environmental barriers and facilitators	Suggesting responsible behavior	
	Organizational organization		Considering the threats and opportunities of actual and potential competitors Economic, social, and environmental development Brand value co-creation with infrastructure and management capability Infrastructure to facilitate communication and joint ventures Lack of customer brand value co-creation in the Iranian dairy industry
			Organizing and planning Culturalization Synergistic and technological upgrading Creating organizational flexibility

Table 3: Three-level clustering of the indices presented in the interviews

Category clusters	Level 2 categories	Level 1 categories
Value co-creation with the employees	Focus on organizational and market processes	Redesigning organizational processes
	Providing educational services to the employees	Market survey, market creation, and marketing Human resource development
	Improving employee skills	Promoting employee culture, ability, and knowledge Maintaining applied skills in the organization
	Improving organizational skills	Facilitating the communication between staff and managers Explaining the duties and responsibilities Information technology (IT) skills Interactive skills
Brand competitiveness	Focus on customers	Customer confidence and trust Customer citizenship behavior Customer commitment
	Enhancing the ability to provide products and services	Gaining customer trust and satisfaction Product empowerment and service development
	Competitiveness of the organization	Evolutionary and innovative products style The organization need for brand value co-creation with the customer Increasing the quality of services and products Knowledge-based competitiveness
	Understanding the competitive environment	Systematic audits of organization competitiveness Predicting competitors' plans and strategies Gaining a competitive advantage in brand value co-creation
Value co-creation strategy	Knowledge and technology	Identifying competitors' strengths and weaknesses Competitive environment by implementing win-win policy Controller competition away from extremism
	Organizational Management	Recognizing the strengths and weaknesses of the organization Using management information systems The role of IT in the organizational strategic system Knowledge and technology management Managerial understanding of brand value co-creation
	Strategic perspective	Aligning knowledge management practices and organizational needs Implementation of dairy industry policies Continuous evaluation and assessment in the organization Reviewing, refining, and evaluating brand equity strategies Awareness of strategic decisions
		Strategic vision and goals of customer relationship knowledge

Identification and screening the indices

At this stage, the screening and identification of the final indices of brand value co-creation are discussed. According to the qualitative content analysis of the specialized interviews, 59 indices were identified. Fuzzy Delphi approach was used to screen the indices and identify the final indices of value co-creation. Examining expert opinion regarding the significance of each of the indices was collected with a seven-degree fuzzy spectrum.

Table 4: Seven-degree fuzzy spectrum of valuation of the indices

Linguistic variable	Fuzzy value	Fuzzy number scale
Quite unimportant	~1	(0,0,0.1)
Very unimportant	~2	(0,0.1,0.3)
Unimportant	~3	(0.1,0.3,0.5)
Medium	~4	(0.3,0.5,0.75)

Table 4: Seven-degree fuzzy spectrum of valuation of the indices

Linguistic variable	Fuzzy value	Fuzzy number scale
Important	~5	(0.5, 0.75, 0.9)
Very important	~6	(0.75, 0.9, 1)
Quite important	~7	(0.9, 1,1)

Fuzzy Delphi approach was used to ensure the accuracy of the identified indices and to select the final indices. A seven-degree spectrum was used in accordance with Table 4 for the fuzzification of the experts' opinions. Eleven experts' views regarding each index were collected and the fuzzy mean of experts' view was calculated using Equation 1.

Equation 1

$$\tilde{F}_{AVE} = (L, M, U) = \left(\frac{\sum l_i^k}{n}, \frac{\sum m_i^k}{n}, \frac{\sum u_i^k}{n} \right)$$

In this equation, the triangular fuzzy number $\tilde{f}_i = (l_i^k, m_i^k, u_i^k)$ is the fuzzy equivalent of the k -th expert's view concerning the i -th criterion. Finally, the defuzzification will be performed. The surface center method is used for defuzzification as follows:

Equation 2

$$DF_{ij} = \frac{[(u_{ij} - l_{ij}) + (m_{ij} - l_{ij})]}{3} + l_{ij}$$

In this study, the tolerance threshold was considered 0.7. Thus, a defuzzified value greater than 0.7 is accepted and any index with a score above 0.7 is confirmed [21].

After defuzzification, mean values by surface center method, indices with a score less than 0.7 were eliminated. Accordingly, 17 indices were eliminated in the first round and the remaining 42 indices were given to experts. Fuzzy Delphi analysis continued for the remaining indices in the second round. At this stage, 42 indices were evaluated based on 11 experts' views.

No questions were eliminated in the second round, which shows the end of the Delphi rounds. Overall, one approach for ending Delphi is to compare the mean scores of the first and second rounds of questions. If the difference between the two stages is too low (0.2), the survey process stops [22]. The summary of the results of the fuzzy Delphi technique is given in Table 5.

Table 5: Summary of fuzzy Delphi technique results

	The indices of brand value co-creation with customers in the dairy industry	Definite value of first rounds	Definite value of second rounds	Difference	Result
C01	Recruiting people with the skills and experience	883	868	0.015	Confirmed
C02	Meritocracy	0.845	0.876	0.031	Confirmed
C03	Customer demand based product development and branding	0.815	0.845	0.030	Confirmed
C07	Strengthening communication skills	0.830	0.800	0.030	Confirmed
C08	Increasing the competitiveness and survival of the organization	0.891	0.830	0.061	Confirmed
C09	Using the update technology	0.812	0.891	0.079	Confirmed
C10	Creating security by relying on brand value creation capabilities	0.883	0.845	0.038	Confirmed
C12	Developing long-term plans for brand value co-creation	0.838	0.906	0.068	Confirmed
C13	Knowledge structure	0.805	0.906	0.0101	Confirmed
C14	Focus on the key role managers have regarding the stakeholders in the dairy industry	0.808	0.868	0.060	Confirmed
C15	Suggesting responsible behavior	0.842	0.777	0.065	Confirmed
C16	Considering the threats and opportunities of actual and potential competitors	0.830	0.883	0.053	Confirmed
C19	Infrastructure to facilitate communication and joint ventures	0.820	0.891	0.071	Confirmed
C20	Lack of customer brand value co-creation in the Iranian dairy industry	0.921	0.853	0.068	Confirmed
C21	Organizing and planning	0.876	0.876	0.00	Confirmed
C22	Culturalization	0.827	0.823	0.04	Confirmed
C23	Synergistic and technological upgrading	0.891	0.883	0.023	Confirmed
C24	Creating organizational flexibility	0.858	0.823	0.08	Confirmed
C26	Market survey, market creation and marketing	0.797	0.853	0.035	Confirmed
C27	Human recourse development	0.812	0.861	0.056	Confirmed
C29	Maintaining applied skills in the organization	0.883	0.891	0.049	Confirmed
C32	IT skills	0.845	0.883	0.08	Confirmed
C34	Customer confidence and trust	0.850	0.830	0.038	Confirmed
C35	Customer citizenship behavior	0.805	0.823	0.020	Confirmed
C36	Customer loyalty	0.865	0.853	0.018	Confirmed
C37	Gaining customer trust and satisfaction	0.823	0.868	0.012	Confirmed

Table 5: Summary of fuzzy Delphi technique results

	The indices of brand value co-creation with customers in the dairy industry	Definite value of first rounds	Definite value of second rounds	Difference	Result
C39	Evolutionary and innovative products style	0.861	0.891	0.045	Confirmed
C40	The need for the organization to create brand value co-creation with the customer	0.823	0.838	0.030	Confirmed
C42	Knowledge-based competitiveness	0.891	0.861	0.015	Confirmed
C43	Systematic audits of organization competitiveness	0.809	0.898	0.030	Confirmed
C45	Gaining competitive advantage in brand value co-creation	0.861	0.861	0.089	Confirmed
C47	Competitive environment by implementing win-win policy	0.914	0.876	0.00	Confirmed
C48	Controller competition away from extremism	0.815	0.853	0.038	Confirmed
C50	Using management information systems	0.812	0.845	0.038	Confirmed
C51	The role of IT in the organizational strategic system	0.823	0.883	0.033	Confirmed
C52	Knowledge and technology management	0.802	0.861	0.060	Confirmed
C53	Managerial understanding of brand value co-creation	0.861	0.823	0.059	Confirmed
C54	Aligning knowledge management practices and organizational needs	0.914	0.876	0.038	Confirmed
C55	Implementation dairy industry policies	0.815	0.853	0.023	Confirmed
C56	Continuous evaluation and assessment in the organization	0.812	0.845	0.034	Confirmed
C57	Reviewing, refining, and evaluating brand equity strategies	0.823	0.883	0.023	Confirmed
C59	Strategic vision and goals of customer relationship knowledge	0.802	0.861	0.046	Confirmed

According to the results in Table 5, it was clarified that in all cases the difference is less than 0.2, Delphi rounds can be completed. Thus, 42 indices were finally selected. These indices are categorized into main and sub-themes. Indices of the brand value co-creation model in the dairy industry derived from interviews with the database method are presented in Table 2.

Structural-interpretive modeling

Structural-interpretive modeling was used to design the initial model of brand value co-creation with the customer in the dairy industry. Structural-interpretive modeling is one of the heuristic approaches to model design in management that was first introduced by Warfield (1974* and introduced by Sage, 1977). This approach enables experts to plot the complex relationships between many elements in a complex decision-making position [19].

The structures examined to present the basic model of brand value co-creation with the customer in the dairy industry are strategic brand value co-creation, brand organizational value co-creation, employee value co-creation, customer value co-creation, brand value co-creation strategy, brand competitiveness, and organizational knowledge management.

- Formation of structural self-interaction matrix

The first step in structural-interpretive modeling is calculating intra-index relationships. Expert opinion is used to show the internal relationships between indices. The matrix

obtained from this step shows which variables affect which ones and are affected by which variables. Symbols like the ones Table 6 is commonly used to identify the pattern of element relationships.

Table 6: The states and symptoms used to express the relationship between the variables

O	X	A	V
Lack of relationship	Two-way relationship	Variable j affects i	Variable i affects j

According to the symbols in the table, the structural self-interaction matrix will be as in Table 7.

Table 7: Structural self-interaction matrix of the variables

Main	C01	C02	C03	C04	C05	C06	C07
C01		A	O	V	A	O	O
C02			V	V	A	O	A
C03				O	O	O	A
C04					O	V	O
C05						O	V
C06							O
C07							

- Formation of the reachability matrix

The reachability matrix is obtained by converting the structural self-interaction matrix into a two-value matrix of zero and one. In the reachability matrix, the elements of the main diagonal are equal to one.

Table 8: Reachability matrix of the research variables

RM	C01	C02	C03	C04	C05	C06	C07
C01	1	0	0	1	0	0	0
C02	1	1	1	1	0	0	0
C03	0	0	1	0	0	0	0
C04	0	0	0	1	0	1	0
C05	1	1	0	0	1	0	1
C06	0	0	0	0	0	1	0
C07	0	1	1	0	0	0	1

- Determining the relationships and ranking dimensions and indices

The set of outputs and inputs for each criterion must be extracted from the received matrix to determine the relationships and rank the criteria.

Table 9: Determining the relationships and ranking dimensions and indices

	Output: affecting	Input: being affected	Commonality Level	
C01	C01.C04	C01,C02,C05	C01	3
C02	C01,C02,C03,C05	C02,C05,C07	C02	4

Table 9: Determining the relationships and ranking dimensions and indices

	Output: affecting	Input: being affected	Commonality Level	
C03	C03,C04	C02,C03,C07	C03	3
C04	C04,C06	C01,C02,C03,C04	C04	2
C05	C01,C02,C05,C07	C05	C05	6
C06	C06	C04,C06	C06	1
C07	C02,C03,C07	C05,C07	C07	5

The set of outputs includes the self-criterion and the criteria affecting it. The set of inputs contains the criterion itself and the criteria affecting it. Then the set of two-way relationships of the criteria is determined. The table results indicated that the brand competitiveness variable is a first-level or dependent variable. After identifying the first-level variable, this variable is deleted, and the set of inputs and outputs is calculated regardless of the first-level variable. The common set is identified and the variables whose share is the same as the set of inputs are selected as second-level variables. This process will carry on until the last-level variables are identified. Customer value co-creation is a second-level variable. “Brand strategic value co-creation” and “Employee value co-creation” are jointly the third level. “Brand organizational value co-creation” is at the fourth level and “Organizational knowledge management” is the fifth level. Ultimately, the “Brand value co-creation strategy” was identified as the sixth level variable and the most influential variable in the model. The relationships between the levels of the variables examined are given in Figure 1.



Figure 1: The primary model of brand value co-creation with the customer in the Iranian dairy industry

According to structural-interpretive modeling calculations, it was found that the “value co-creation strategy” is an exogenous independent variable that no variable affects it in

the model. “Knowledge management”, “Brand value co-creation with customer”, “Organization value” and “Value co-creation with employees” are independent-endogenous

variables and “Brand value co-creation with customer” and “Brand competitiveness” is the dependent variables. Moreover, “Organizational value co-creation” plays a mediating role in the relationship between “Value co-creation strategy” and “Organizational knowledge management” with “Brand value co-creation with customer”. On the other hand, “Strategic value co-creation” has a mediating role in the relationship between “Value co-creation strategy” and “Brand value co-creation with the customer.” Finally, it seems that “Value co-creation with employees” moderates the relationship between “Organizational value co-creation” and “Brand value co-creation with customer”.

- Analysis of the power of influence-dependence

In the structural-interpretive model, the interactions and effect between the criteria and the relationship between the criteria at various levels are well shown, which results in a better understanding of the decision making space by managers. The power-dependency graph is plotted to determine the influence of power and dependence. Table 10 shows the results of this graph.

Table 10: The influence and the dependence between variables

	Research variables	Influence	Dependence
C01	Brand strategic value co-creation	2	3
C02	Organizational brand value co-creation	4	3
C03	Value co-creation with the employees	2	3
C04	Brand value co-creation with the customer	2	4
C05	Brand value co-creation strategy	4	1
C06	Brand competitiveness	1	2
C07	Organizational knowledge management	3	2

According to the influence-dependency diagram, a group of variables is subdivided into stimulus subgroups, which have high influence power and low dependency. Another type of variable is product development results, with less influence and more dependency relative to other variables. Accordingly, the “Value co-creation strategy” has high influence and low dependency and is among the independent variables. “Brand strategic value co-creation”, “Brand organizational value co-creation” and “Value co-creation with employees” have the same influence and dependency. Thus, they are hybrid variables. The variables “Brand value co-creation with customer” and “Brand competitiveness” had high dependence and low influence. Thus, they are considered as dependent variables. “Organizational knowledge management” is in the first quarter, the autonomous area.

DISCUSSION AND CONCLUSION

In the qualitative section of the study, the results of previous studies and interviews with dairy market experts resulted in the extraction of 6 main categories and 59 sub-categories with the help of MaxQDA software (Table 3).

The indices extracted from the qualitative stage of the study were examined in two Delphi steps. The results of Delphi levels implementation resulted in the finalization of 42 indices in the form of 6 main categories. Thus, in responding to the first question of the research - What are the factors affecting brand value co-creation with the customer in the Iranian dairy industry? - 42 indices were introduced in the form of 6 main categories according to Table 5. These indices were considered as the indices affecting brand value co-creation with the customer in the Iranian dairy industry.

In response to the second question - What is the causal relationship between the underlying factors of brand value co-creation with customer value in the Iranian dairy industry? - the structural-interpretive modeling of the indices was calculated. Structural-interpretive modeling during the stages of formation of the structural self-interaction matrix, the reachability matrix, and the categorization of the dimensions and indices examined allows identifying the intrinsic relationships between the indices from the experts' opinions. The matrix obtained in this step shows which variables affect and which variables affect a variable.

According to the results, the “Value co-creation strategy” was identified as an independent exogenous variable not affected by any of the variables of the model. “Knowledge management”, “brand value co-creation with customer”, “organization value” and “value creation with employees” are independent and endogenous variables. “Brand value co-creation with customer” along with “Brand competitiveness” were the dependent variables of the study. Moreover, “Organizational value co-creation” has a mediating role in the relationship between “Value co-creation strategy” and “Organizational knowledge management” with “Brand value co-creation with Customer”. On the other hand, “Strategic value co-creation” has a mediating role in the relationship between “Value co-creation strategy” and “Brand value co-creation with the customer.” According to the structural self-interaction matrix, “Brand competitiveness” is the first-level or dependent variable. The second level variable “Customer value co-creation”, “Strategic value co-creation of the brand” and “Value co-creation with employees” formed the third level. “Organizational brand value co-creation” and “Organizational knowledge management” were in the fourth and fifth levels, respectively. The most influential variable in the causal model of the underlying factors of brand value co-creation with the customer in the Iranian dairy industry was the “Brand value co-creation strategy”.

Determining the influence-dependency power of the variables examined shows that the “Value co-creation

strategy” has high influence and little dependency. Thus, it is in the independent variables sphere. “Strategic brand value co-creation”, “Brand organizational value co-creation” and “Value co-creation with employees” have a relatively similar power of influence and dependency and play the role of intermediary variables. “Brand value co-creation with customer” along with “Brand competitiveness” has low influence and high dependency. Thus, they are dependent variables.

The study presented the model of brand value co-creation with customers in the Iranian dairy industry. According to the results to create and maintain brand strategic value co-creation in the dairy industry, it is recommended that the managers active in this area, take a significant and fundamental step towards reaching brand value co-creation with the customer by enhancing their marketing skills and developing new products. Additionally, they must increase the competitiveness and survival of the organization by developing a culture of teaching and learning, besides recruiting and hiring skilled and experienced people to develop products and branding based on customer demand. It is obvious that emphasizing meritocracy improves service development skills and communication skills between industry and customers.

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