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The Conceptual Framework of Supplier Relationship Development in the Abadan Refinery with a Focus on Value Cocreation Based on the Grounded Theory

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Highlights

- The data analysis led to the introduction of three components: organizational structures, means of communication, and organizational context.
- The Abadan refinery's supplier relationship approach toward value cocreation was introduced.
- The data analysis led to the introduction of legal requirements, industry characteristics, environmental conditions, and national resources protection.
- The data analysis led to the introduction of strategic partnerships, supplier risk mitigation and empowerment, supplier significance and level identification, and management system reform.
- The data analysis led to the introduction of organizational consequences, national consequences, supplier and stakeholder consequences, rational decision-making, and effective and continuous value cocreation.

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Abstract

The current research was conducted with the aim of providing a conceptual framework for the development of relations with suppliers in Abadan Oil Refining Company. The research method was qualitative and based on the data theory of the foundation. Semi-structured interviews were used to collect data, and data analysis was performed by the Strauss and Corbin method and the paradigm model. The statistical population was experts and managers with experience in Abadan Oil Refining Company, from which a sample of 21 people was selected after reaching theoretical saturation. Sampling was conducted theoretically using targeted (judgmental) techniques. The results of analyzing the data obtained from the interviews, during the process of open, central, and selective coding, led to the creation of the development model of the relationship with the suppliers of consumer products in the Abadan Oil Refining Company based on the data theory of the foundation. Communication with suppliers was also identified. The findings indicate that for the success of the development model of the relationship with the suppliers of consumer products, company managers can pay attention to the identified categories and subcategories. Further, if they match the conditions of the company to the identified categories, this research shows the need to pay attention to the development patterns of relationships with suppliers.

Keywords: Abadan refinery, Grounded theory, Perceived value, Supply chain, Supplier relationship development, Value cocreation

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1. Introduction

Nowadays, excessive competition in supplying goods and services has been globally an irrefutable fact over the past two decades, with exacerbating effects on other common human activities. Suppliers find their goods and services in conditions that essentially impose competition on them to survive; one is to organize the internal affairs and create the potentials that require competitive strength, and the other is to form an organized, dynamic, and strong relationship with other corresponding members, such as customers and suppliers. In other words, the cases of internal success within an institution are not sufficient to bring success in competitive markets and offer survival. Instead, the cases of success within the whole chain in which the institution presents its goods and services should be relied upon. "Supply chain management" is the product of such an account, which is taken as a type of systemic belief in the dimensions of goods and services supply (Kazzazi et al., 2014:81). Organizations gain more benefits by focusing more on competitive advantages. Hence, supplier selection has been a challenge for most organizations (Mojir, 2022). Purchasing occupies a significant part of the company's budget and its financial cycle, so it is a significant percentage of the total purchase cycle expenses in some countries. Therefore, choosing the most suitable supplier is one of the company's strategic tasks. Outsourcing is used by companies as an important strategy to reduce costs and increase profits (Van Hook, 2021). In addition to cost savings, outsourcing offers other benefits, such as reduced market delivery time and enhanced work quality. Outsourcing or collaborating with a supplier is one of the finest strategies if a company lacks the skills and expertise to perform a specific task. A supplier can help the customer firm minimize the required time for production and logistics (Zhu, 2015:1).

In the outsourcing process, an especially significant consideration is the relationship with suppliers to synergize value. The term "synergy" comes from the Greek "synerga" that contextually implies collaboration and working together with similar meanings in various science fields. In medical terminology, synergy is defined as any substance or muscle cooperating with another substance or muscle. In physics, synergy is the increased impact from the combination of two forces, which is greater than that of the actual individual amount. In music, the combination of two notes or two sounds produces additional energy and has a more intense and different effect than a single note. In the context of human behavior and social psychology, synergy is the amplified behavior and creating a whole that is greater than the sum of its constituting behaviors (Madah and Salavati Sarcheshmeh, 2005:36).

In traditional marketing science, models of interaction and transaction are derived from the economy and developed within the goods-dominant logic. The goods-dominant logic was focused on tangible resources and the embedded value in goods and transactions. However, the emergence of the service-dominant logic in recent decades has drawn marketers' attention toward intangible resources, the set of skills and knowledge, value cocreation, and communication (Homburg et al., 2017; Mainardes et al., 2017). The prevalence of the service-dominant logic redirected the trends from producers to customers, raising the topic of value cocreation. Initial marketing studies hardly distinguished value from its price-associated notion. However, this concept gradually exceeded economic definitions and was described with distinction from the economic aspect (Ge and Gretzel, 2018).

Outsourcing redirects suppliers' focus toward intangible resources, sets of skills and knowledge, value cocreation, and communications (Jaakkola and Alexander, 2014; Homburg et al., 2017; Mainardes et al., 2017). Customers participate in value creation and share their resources (especially their skills and knowledge) with suppliers in the process (Mainardes et al., 2017; Lusch and Vargo, 2006; Vargo and Lusch, 2004; Ranjbarfard and Heidari, 2018). In outsourcing, the seller and buyer enter an interactive and communicative process for value creation (Brodie et al., 2013), and one-way communications are replaced by mutual and dialogue-oriented communications (Greoger et al., 2016; Hollebeek et al., 2016).

Iran's exceptional circumstances regarding oil have given rise to the formation of various companies in the oil, gas, and petroleum industries. These companies have grown in different aspects in terms of both number and scope. The majority of organizations involved with these industries are expansive and diverse, with several projects under their command. Therefore, to undertake these large-scale and manifold projects, highly qualified engineering and contractor companies are required in technical, engineering, financial, and particularly management areas. Extensive research has been conducted so far on supplier relationships, while value cocreation has been missed as a primary variable in outsourcing, which indicates the necessity of investigating the research topic in the oil industry.

Value creation is typically a topic of interest in holding organizations. Therefore, project-oriented oil companies hardly provide a research study that comprehensively addresses value creation in supplier relationships within the oil industry units and particularly an oil refinery. A review of the research background shows that most studies on value cocreation are theoretical and conceptual, and relevant research literature faces a critical gap regarding concept indices and inclusive measuring tools for the constituent elements of value cocreation. This issue makes it difficult to find empirical applications of value cocreation discussions in investigating the place of organizations and suppliers in terms of meeting the value cocreation requirements. On the other hand, previous research often addresses the intricate concept of value cocreation from the perspective of either the suppliers or the organization unilaterally. While authors have written extensively about the significance of value cocreation, there are limited studies on developing the elements of value cocreation as capabilities and actions toward shared value creation from an organizational viewpoint. Thus, developing a value cocreation framework with value cocreation elements for organizations and customers can resolve the aforesaid gaps and contribute to expanding the boundaries of relevant knowledge. On the other hand, the market has become more competitive, and many companies emphasize improving the efficiency of operations and logistics management. Outsourcing as an important strategy, in addition to saving costs, includes reducing the time of delivery to the market and increasing the quality of work. The present study constructs a concept shaped within a mutual relationship with suppliers from an integrated viewpoint of organization and customer capabilities in value cocreation. Therefore, this research seeks to design the value cocreation-driven supplier relationship model in the Abadan refinery.

2. Research background

In a work entitled "Provision of the Purchasing System Model for the Trading Company of Sugarcane Development and Ancillary Industries", Kalantari et al. (2023) reached the conclusion that supply and procurement, production, distribution, deregulation, registration of orders, timely delivery of products, on-time delivery indicators, and standards had an impact on the central phenomenon of purchasing and the consequences, including enhancing organizational performance, high productivity, improving organizational brand, and efficiency in production. The findings of the quantitative part showed that all the dimensions identified in the qualitative part were significant based on the path coefficients according to the structural equation model. In a study titled "Introducing a Model of Value Cocreation with Customers in the Tourism Industry", Javashi Jadid et al. (2020) developed a go-to-market model (GTM-based model) in tourism and concluded that implementing the value cocreation process with customers in tourism could contribute to the more effective use of customer potentials and capacities to achieve a competitive advantage, promote the organizational bran, and attain positive economic, cultural, social, political, and environmental outcomes.

In a study entitled "Investigating the Effect of Outsourcing on Productivity (Case Study: Ilam Gas Treating Co.)", Azadi et al. (2019) showed that outsourcing the organization's activities affected its dimensions of productivity, including management control, focus on key capabilities, alignment with

the firm's strategy, strategic dependency, reduced costs, service quality, flexibility, and pace of activities. In a study titled "Strategic Value Cocreation Model in Banking Industry (Value Creation in a New Paradigm)", Rahmanseresht et al. (2018) concluded that the strategic value cocreation model had two dimensions: 1) the organizational value cocreation with components such as marketing skills, service development skills, communication skills, information technology (IT) skills, organization skills, organizational culture, and human resources management and 2) the customer value cocreation with components such as aid in product development, interactive skills, feedbacking, loyalty, and responsible behavior. In a study on identifying and ranking the influential factors of imports of goods for domestic suppliers in the oil and gas and petrochemical industry (a case study of Pars Kala Gas Co. (KGC)), Rafati et al. (2017) concluded six factors: the lack of domestic production of the given product, the absence of support from Iranian executive managers for domestic manufacturers, low customs tariff for some imported goods, the client's need for original foreign goods, the lack of raw materials for production in the country, and fluctuations in the rate of Iranian Rial against other currencies in the Iranian market. The findings can be purposefully beneficial for domestic supplier companies in terms of import planning and management, domestic production planning in collaboration with domestic manufacturers, and marketing industrial and specialized products that are not made in the country.

Mojir et al. (2021) in a work entitled "Cocreation of Value with Customers in the Tourism Industry, a Model Based on the Foundation's Data Theorizing Method in the Field of Tourism" found that the implementation of the process of cocreation of value with customers in the tourism industry could help more effectively use the capacities and capabilities of customers to achieve competitive advantage, promote the organizational brand, and achieve positive economic, cultural, social, political, and environmental consequences.

In a study titled "The State of Outsourcing in the Canadian Mining Industry", Baatartogtokh, Dunbar, and Zyl showed that outsourcing led to increased flexibility, reduced fixed-asset investment, reduced fixed costs, and focus on primary activities. In a study entitled "Performance Evaluation of Outsourcing Decision", Modak, Pathak, and Ghosh (2017) developed a performance evaluation framework based on the balanced scorecard (BSC) and fuzzy analytic hierarchy process (AHP) to analyze the suitability of strategic outsourcing decisions for the Indian coal mining organization. The findings introduced the proposed framework as an analytical tool for strategy formulation and logical guidance for management purposes based on performance improvement.

In a study entitled "A System Dynamics Approach to Logistics Outsourcing Policies and Decisions", Franco, Yoshizaki, and Vieira (2016) showed that the model examined the pre- and post-outsourcing costs and demonstrated their effect on the trend of the net present value (NPV). The findings implied that operation supervision was required to achieve desired financial results. Furthermore, the dynamics model provided the guidelines for the contract period. In a study regarding the dynamic modeling for outsourcing projects with poor quality and delivery delay, Ojugbele and Bodhanya (2015) indicated that constant outsourcing increased the resignation rate among technical employees. While outsourcing may initially help decrease the number of delayed projects, it eventually fails, and the generated dynamic processes reflect the effects of outsourcing. According to Brown and Wilson (2015), it may be necessary for a firm to restructure to gain a prominent position in the market. Restructuring, along with the use of outsourcing, enables the organization to benefit from the experience of professionals and experts (outsourcing organizations with expertise in outsourcing services).

Williams (2014) suggested that competence, capacity, and culture should be the constructs shaping the framework of organizational capabilities for value creation. In a study titled "Critical Success of the Offshore Outsourcing of Software Development Projects: A System Dynamics Approach", Mayrand, Cassivi, and Cloutier (2013) showed that the given factors included the degree of technical knowledge

of suppliers, the availability of technical experts for customers, goal-based trust, supplier transparency of internal processes, control-supervising mechanism, and project outcomes. Grisseman and Stockburger (2012) investigated the relationship between the level of company support (as a stimulant of cocreation) and customer loyalty. Their results indicated that the more support the parent company offered to outsourced companies, the greater the cocreation between them became, thereby resulting in customer loyalty.

3. Research methodology

In terms of type and paradigm, this work is a qualitative interpretive study conducted with the grounded theory and Strauss and Corbin's model. As the research method, an inductive approach is taken to investigate the design of the supplier relation model for the Abadan refinery toward value cocreation based on the opinion of experts, theoreticians, and senior managers of the Abadan refinery, suppliers of the Abadan refinery, and senior employees in the logistics department. Afterward, the model is to be determined based on the inductive method using the gathered information. To this end, informed authorities and scientific methods are also applied. The study is also a cross-sectional survey in terms of time horizon and strategy, respectively. In other words, the research is not conducted longitudinally, and within a cross-sectional study, the researcher has performed the interviews and has gathered the data on developing the supplier relationship model of the Abadan refinery toward value cocreation. Secondary information and data are collected using the library research method, and the data collection is conducted through the field technique.

A review of research literature and records in national and international journals and databases provided the basis for the library research method, and interviews were conducted for the field technique. The research technique was interviewing, based on an approved protocol by the supervisor and advisor professors over the main research questions. The population included all members of the senior experts and managers of logistics, senior experts and managers of the legal and contract services, and the CEO and deputy CEO of parts and materials suppliers of the Abadan refinery with regular participation over the past five years. Therefore, the researcher used the snowball sampling method to identify the foremost experts, and 21 individuals were interviewed. Based on the snowball sampling technique, one or two experts from each group were first interviewed and asked to introduce other experts to participate in the research according to the research topic. The semi-structured interviews were utilized for data collection. In this type of interview, general subjects and questions are typically raised, new questions are structured during the interview, and interviewees are asked about these newly-formed questions. Writing the oral data from the interviews was conducted in the interview session, so one can be sure of the validity of the research. The reports extracted from the interviews were prepared by the researcher himself so as not to reduce the credibility of the interview stage. In addition, during the interviews, the researcher was careful in the way of asking the questions so that the quality and validity of the questions were not doubted.

4. Findings

In the grounded theory, the process of information analysis is founded on open, axial, and selective coding methods or theory construction. These concepts are described as follows.

4.1. Open coding

Through open coding, concepts are identified, and data aspects and features are discovered. During this stage of the grounded theory, the researcher seeks to identify primary categories corresponding to the phenomenon that is being studied. Table 1 presents an example of open coding.

Table 1
An example of open coding in research

Open code	Concept	Document
Think tank	To handle and consult with the major suppliers of the Abadan refinery, a think tank is required to solve the problems between the parties, and the CEO and board members should be informed of the final results.	Interviews 8 and 13
	The trading commission is typically individual-oriented, and the focus on the refinery is on the inside and senior authorities. Therefore, think tanks and supplier alignment are less attended.	Interviews 1 and 14
	The refinery and supplier should regard each other as strategic partners. The supplier company should play an advisory and empathetic role to be coordinated with the refinery and supplying the ordered parts, especially in specialized machinery and equipment, specialized personnel, and continuous processes. The refinery should provide the supplier with the necessary information.	Interviews 4 and 6

Table 4 presents the results from open coding the interview-based collected qualitative data. Finally, a total number of 29 open codes were identified within 103 concepts.

4.2. Axial and selective coding

In this stage, categories and subcategories are connected, given their characteristics and aspects. It aims to establish a connection between the generated categories in the open coding stage, and this method is carried out based on the paradigm model.

During the last stage, selective coding, the researcher attempts to strengthen the coding process using the identified codes and concepts, systematically linking the core category to other categories, providing research proof of those relations, and creating an image based on the relationships between the categories. The procedure generally aims to formulate a theory based on the collected data. Thus, certain relationships are formed, leading to designing and developing a theoretical model based on the constructed categories and cores. In light of the above, the selective and axial coding is presented in Table 2.

Table 2
Axial and selective coding

Core category	Subcategory	Open codes	Repetition
Causal factors	Organizational structure	Unsuitable and non-agile organizational structure	5
		Redundant bureaucracy and paperwork	3
		Parallel working by the refinery's vendor list and the center's system	8
	Means of communication	The management of means of communication	7
		Effective communication	9
		Poor performance of the means of communication for informing, discussing, consulting, participating, and individual/group interactions with domestic and international suppliers	3
	Organizational context	Contextualizing the supplier participation environment and making the strategic plan for the business environment	3

Core category	Subcategory	Open codes	Repetition
Strategies	Management systems reform	Delegating authority to various levels for decision-making and helping solve the supplier's problems	2
		Executive processes	11
		Management entrenchment to actualize the primary and long-term achievements	5
		Operationalizing the context and maximizing the capacities by selecting competent, capable, and professional managers	3
		Preparing a comprehensive and integrated management system and the corresponding application	6
	Strategic partnership	Identifying the financial, technical, legal, national, and international dimensions	3
		Identifying the suppliers in association with the refinery's strategic goals	8
		Identifying the sanction-caused limitations	6
	Supplier risk mitigation and empowerment	Suitable advance payments	5
		Negative consequences of the sanctions for the country (Iran)	5
		Increasing national interests in various aspects by delegating to suppliers	4
	Supplier significance and level identification	The effective level of suppliers in preparing a healthy, flawless, and highly reliable division	3
		Using scientific methods to determine the stakeholder's level of significance and priority	6
		Ranking suppliers based on urgency and access	4
Context factors	Identification of stakeholders and suppliers	Identifying all representatives of supplying and manufacturing parts, goods, and pieces of machinery at international and domestic levels	3
		Identifying domestic and foreign interest groups and supplier companies	4
		Using rational supplier selection criteria, especially regarding environmental pollutants or international standards and certificates	3
	Supplier capability analysis	Identifying and analyzing benefits, strengths, urgency, and inner interactions of each supplier in different areas	5
		Predicting and analyzing the behavior and possibility of support or rejection by suppliers	4
		Identifying and understanding the supplier expectations in the form of a joint workgroup between the refinery and suppliers	3
	Motivational factors	Think tank	3
		Supplier network	4
		Optimal budget allocation and payment prioritization	3
		Motivic development of suppliers and brokers	4
	Feedback system	Multilateral communications and discourse	4
		Publicizing the results along with giving solid and acceptable reasons to suppliers	5
		Continuous modification and control	3
		The proper definition of improvement indices	7
		Considering the suppliers' environmental plans	4

Core category	Subcategory	Open codes	Repetition
	Evaluation of improvement options	Social responsibility and indexing for suppliers to follow	9
	Organizational climate	Interaction-based organizational culture	3
		Management entrenchment	6
	Goal-oriented management	Defining clear and measurable goals regarding suppliers	5
		Continuous communication system and formulation of a suitable win-win model for the refinery and suppliers	4
		Detecting the issues regarding suppliers and access to goals via continuous monitoring	4
	Supplier satisfaction measurement	Measuring supplier satisfaction	5
		Taking a holistic approach and making constant changes in the indices of supplier satisfaction measurement	4
		Meeting the needs of all the interest groups via proportional pricing and market interactions	3
	Supplier feedback and communication facilitation	Improving the sense of collaboration and participation	3
		Improving transparency in organizational processes and rules and regulations	3
		Reforming the refinery's structure to face the challenges and opportunities toward continuous supplier feedback	3
	Industry characteristics	Clarifying the refinery's position, mission, goals, policies, and philosophy	3
		Technologies in use	4
		Dependency on foreign countries for equipment	4
	Environmental conditions	Dividing the environmental risks between the employer and supplier	3
		Considering the immediate society's values and ethics	4
		The organization's environmental factors (human, economic, bio-environmental, and social factors based on their significance in any given period)	3
Intervening factors	Legal requirements	Unifying the laws	3
		Evaluating the legality of some of the suppliers in decision-making	3
		Updating the changes in inflation and financial principles of governmental trading rules and regulations	4
	National resources protection	Overlapping the personal and organizational goals by highlighting the national role	5
		Boosting national interests and contributing to meeting the country's needs through the refinery and suppliers	3
		Focusing on domestic markets	3
Consequences	Supplier and stakeholder consequences	Supplier satisfaction	5
		Reducing negative conflicts between the refinery and suppliers	5
		Enhancing transparency and trust between suppliers and collaboration with the refinery	4
	Organizational consequences	Reducing the negative side effects of effective supplier relationship	4

Core category	Subcategory	Open codes	Repetition
		Enhancing the refinery's effectiveness and efficiency	3
		Systematizing the procedures, social capital, and social responsibility of the refinery	3
		Improving executive processes	3
		Decision-making based on benefit and cost	6
		Improving domestic production	6
		Job creation	5
		Corporate social responsibility	9
	National consequences	Self-sufficiency and less dependency	7
		Enhancing national trust	6
		Importing currency rates and reducing production costs	5
		Sustainable development	3
		Understanding and using the contracting parties' hierarchy of values	4
	Effective and continuous value cocreation	Internal coherence and building trust in supplying goods with transparency and commitment	4
		Increasing the level of supplier participation	4
		Effectiveness of recommendations	5
		Improving decision-making processes	6
		Decentralizing the decisions and delegation	5
		Calculating all the options and conditions using rational and logical techniques	4
	Rational decision-making	Supplier selection based on universality and justice	5
		Evidentialism and adapting the organization's rules based on environmental factors and conditions	6
		Education for performance accountability	4
		Innovation	3

Since in selective coding, the process of telling the story, discovering the central category of the research, and relating it to other categories are conducted in the form of a paradigm model, the explanation of this process (obtained paradigm model) is described in detail below.

5. Discussion and conclusions

The present research gathered the statistical data as expert opinions through interviews with 21 experts. According to the results of the data analysis, the Abadan refinery's supplier relationship approach toward value cocreation was introduced. Based on the Cochran test with a 5% error, the results can be extended to the statistical population of the experts in the present research. The core category, i.e., the research's main targeted phenomenon, is the Abadan refinery's supplier relationship approach toward value cocreation, which is the basis of a process through which all other primary categories are associated with each other. Given the research findings, the influencing factors of the phenomenon, its resulting strategies, and the outcomes and results of the given strategies are discussed.

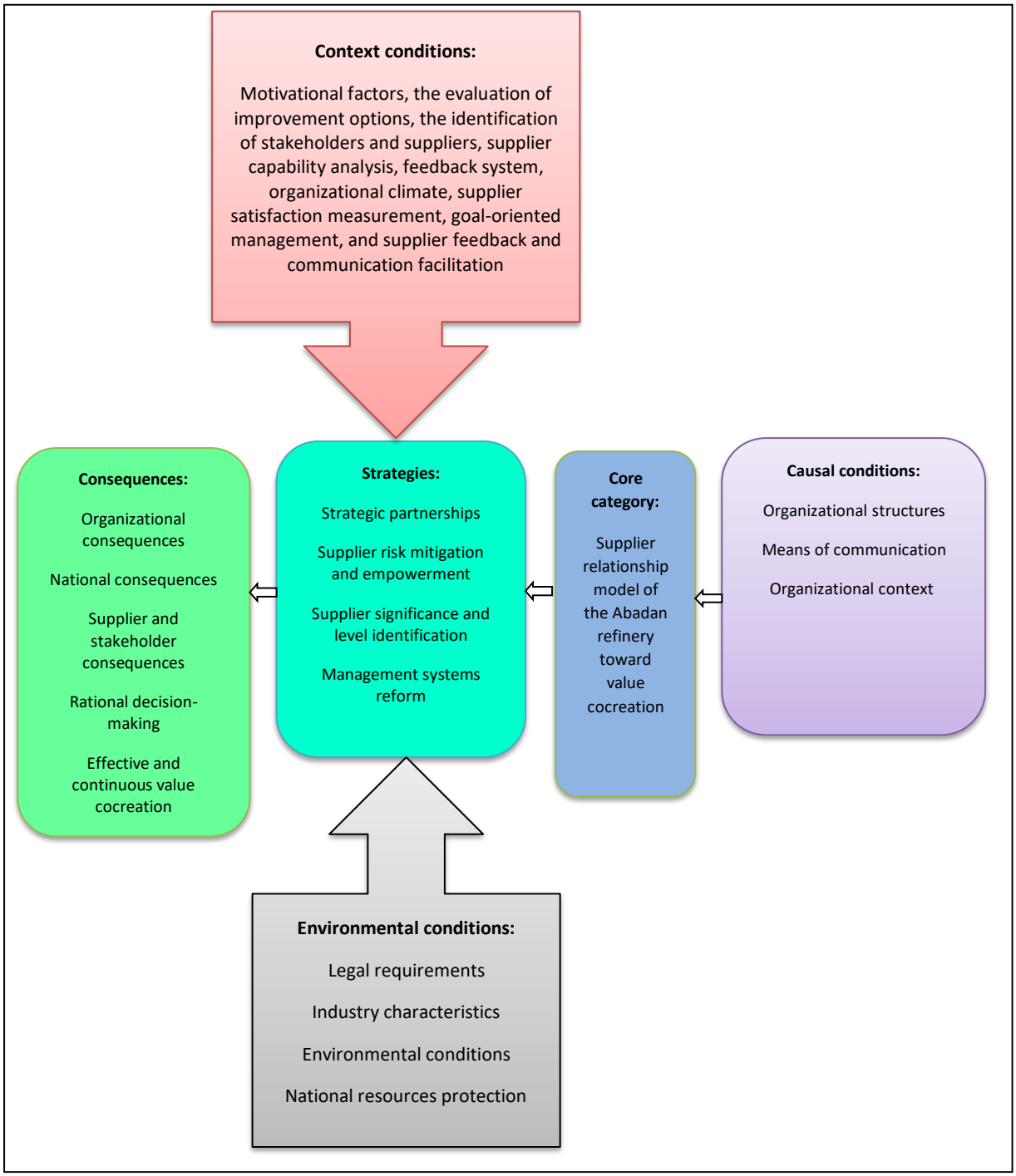

Figure 1

Research paradigm model

What is the conceptual model of the Abadan refinery's supplier relationship toward value cocreation?

In this research, the following dimensions were introduced upon the data analysis:

- Casual, facilitating, or preventive factors;
- Primary or core factors;
- Context factors;
- Intervening factors;

- Strategies;
- Consequences;

These results can be extended to the statistical population of experts in the present research.

What are the causal conditions of the Abadan refinery's supplier relationship toward value cocreation?

This research gathered the statistical data as expert opinions through interviews with 21 experts. The results of the data analysis led to the introduction of three components: organizational structures, means of communication, and organizational context. Based on the Cochran test with a 5% error, the results can be extended to the statistical population of the experts in the present research. Causal conditions entail categories that directly affect the core phenomenon or create and develop it in a way that they can be found through an organized review of data and incidents. The results indicate that organizational structures, communication means, and context can be among the effective causal conditions, which is consistent with the works of Rahmanseresht et al. (2018) and Brown and Wilson (2015).

What is the main phenomenon of the Abadan refinery's supplier relationship toward value cocreation?

This study gathered the statistical data as expert opinions through interviews with 21 experts. According to the results of the data analysis, the Abadan refinery's supplier relationship approach toward value cocreation was introduced. Based on the Cochran test with a 5% error, the results can be extended to the statistical population of the experts in the present research. The core category, i.e., the research's main targeted phenomenon, is the Abadan refinery's supplier relationship approach toward value cocreation, which is the basis of a process through which all other primary categories are associated with each other. Given the research findings, the influencing factors of the phenomenon, its resulting strategies, and the outcomes and results of the given strategies are discussed.

What are the context conditions of the Abadan refinery's supplier relationship approach toward value cocreation?

This research gathered the statistical data as expert opinions through interviews with 21 experts. The results of the data analysis gave rise to the introduction of motivational factors, the evaluation of improvement options, the identification of stakeholders and suppliers, supplier capability analysis, feedback system, organizational climate, supplier satisfaction measurement, goal-oriented management, and supplier feedback and communication facilitation. Based on the Cochran test with a 5% error, the results can be extended to the statistical population of the experts in the present research. In general, context conditions are external factors that organizations fail to control but affect our strategies. Regarding these factors, the interviews mostly emphasized motivational factors, the evaluation of improvement options, the identification of stakeholders and suppliers, supplier capability analysis, feedback system, organizational climate, supplier satisfaction measurement, goal-oriented management, and supplier feedback and communication facilitation. These results are consistent with the works of Abbaspour Shoushtari et al. (2016), Baatartogtokh, Dunbar, and Zyl (2018), and Ojugbele and Bodhanya (2015).

What are the environmental conditions of the Abadan refinery's supplier relationship toward value cocreation?

This research gathered the statistical data as expert opinions through interviews with 21 experts. The results of the data analysis resulted in the introduction of legal requirements, industry characteristics, environmental conditions, and national resources protection. Based on the Cochran test with a 5% error,

the results can be extended to the statistical population of the experts in the present research. Environmental conditions moderate causal conditions and affect strategies. These results are consistent with the works of Hollebeek et al. (2016), Bowden et al. (2017), and Williams (2014).

What are the supplier relationship strategies of the Abadan refinery toward value cocreation?

This research gathered the statistical data as expert opinions through interviews with 21 experts. The results of the data analysis led to the introduction of strategic partnerships, supplier risk mitigation and empowerment, supplier significance and level identification, and management systems reform. Based on the Cochran test with a 5% error, the results can be extended to the statistical population of the experts in the present research. Strategies are actions presented in response to the core category or phenomenon, are selected purposefully, and can be used to accomplish the core phenomenon. These results are consistent with the works of Azadi et al. (2019), Rafati et al. (2017), Modak, Pathak, and Ghosh (2017), and Williams (2014).

What are the categories of consequences in the Abadan refinery's supplier relationship approach toward value cocreation?

This research gathered the statistical data as expert opinions through interviews with 21 experts. The results of the data analysis resulted in the introduction of organizational consequences, national consequences, supplier and stakeholder consequences, rational decision-making, and effective and continuous value cocreation. Based on the Cochran test with a 5% error, the results can be extended to the statistical population of the experts in the present research. Consequences and results originate from adopting strategies whose realization can lead to the realization of the core category if successful. These results agree with the works of Abbaspour Shoushtari et al. (2016), Baatartogtokh, Dunbar, and Zyl (2018), and Ojugbele and Bodhanya (2015).

Nomenclature

AHP	Analytic hierarchy process
BSC	Balanced scorecard
NPV	Net present value

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