revista
tempos e espacos
em educacão

Rev. Tempos Espaços Educ. v.13, n. 32, e-13175, jan./dez.2020
Doi: http://dx.doi.org/10.20952/revtee.v13i32.13175

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# DEVELOP AN EDUCATIONAL MODEL BASED ON PROPOSED VALUE IN PORTS AND MARITIME ORGANIZATION (USING GROUNDED THEORY AND INTERACTIVE QUALITATIVE ANALYSIS)

# DESARROLLAR UN MODELO EDUCATIVO BASADO EN EL VALOR PROPUESTO EN LOS PUERTOS Y LA ORGANIZACIÓN MARÍTIMA (UTILIZANDO LA TEORÍA FUNDAMENTADA Y EL ANÁLISIS CUALITATIVO INTERACTIVO)

# DESENVOLVER UM MODELO EDUCACIONAL BASEADO NO VALOR PROPOSTO EM PORTOS E ORGANIZAÇÃO MARÍTIMA (USANDO A TEORIA DO SOLO E A ANÁLISE QUALITATIVA INTERATIVA)

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**Abstract:** The Educational model in the port and maritime organization is a model that establishes a method based on training people who can make balance between demands and cost supplies. The study area is the Ports and Maritime Organization (Shahid Rajaee Port), 15 km from Band Abbas in Hormozgan province. The statistical population (N), in the first qualitative phase for formulating the grounded theory model, is the statistical population consisting of legal customers of owners of goods, shipping lines including bulk, containers and downloading and loading companies of Hormozgan Ports and Maritime Administration. In the second qualitative phase and in the interactive qualitative analysis, the statistical population consists of experts related to the research topic in the form of a focus group. In the qualitative part of the grounded theory, maxqda software was used for initial data analysis. Despite extensive studies by researchers in port areas, customers and the value provided to them has not received much attention by Iranian researchers. Accordingly, the development this educational model with appropriate explanatory power to examine the nature of proposed value-based competitiveness (from the customers' point of view) and how and why value-based competitiveness necessitated the need to conduct the present study and it was attempted to fill the main gap between an ideal situation and an existing situation, that is the lack of access to a local model with suitable explanation power.

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**Keywords**: *competitiveness, model, proposed Value, ports, seafaring*.

**Resumen:** El modelo educativo en la organización portuaria y marítima es un modelo que establece un método basado en la capacitación de personas que pueden hacer un equilibrio entre las demandas y los costos. El área de estudio es la Organización Marítima y de Puertos (Puerto Shahid Rajaee), a 15 km de Band Abbas en la provincia de Hormozgan. La población estadística (N), en la primera fase cualitativa para formular el modelo de teoría fundamentada, es la población estadística que consiste en clientes legales de propietarios de bienes, líneas de envío que incluyen graneles, contenedores y compañías de carga y descarga de Hormozgan Ports and Maritime Administration. En la segunda fase cualitativa y en el análisis cualitativo interactivo, la población estadística está formada por expertos relacionados con el tema de investigación en forma de grupo focal. En la parte cualitativa de la teoría fundamentada, se utilizó el software maxqda para el análisis inicial de datos. A pesar de los extensos estudios realizados por investigadores en áreas portuarias, los clientes y el valor que se les ha brindado no han recibido mucha atención de los investigadores iraníes. En consecuencia, el desarrollo de este modelo educativo con el poder explicativo apropiado para examinar la naturaleza de la competitividad basada en el valor propuesta (desde el punto de vista de los clientes) y cómo y por qué la competitividad basada en el valor requería la necesidad de realizar el presente estudio y se intentó para llenar el vacío principal entre una situación ideal y una situación existente, es decir, la falta de acceso a un modelo local con un poder explicativo adecuado.

**Palabras clave:** competitividad, modelo, valor propuesto, puertos, navegación.

**Resumo**: O modelo educacional na organização portuária e marítima é um modelo que estabelece um método baseado no treinamento de pessoas que podem fazer o equilíbrio entre demandas e suprimentos de custos. A área de estudo é a Organização Portuária e Marítima (Porto Shahid Rajaee), a 15 km de Band Abbas, na província de Hormozgan. A população estatística (N), na primeira fase qualitativa para a formulação do modelo da teoria fundamentada, é a população estatística composta por clientes legais de proprietários de mercadorias, linhas de expedição, incluindo granel, contêineres e empresas de download e carregamento de Hormozgan Ports e Maritime Administration. Na segunda fase qualitativa e na análise qualitativa interativa, a população estatística é composta por especialistas relacionados ao tema da pesquisa na forma de um grupo focal. Na parte qualitativa da teoria fundamentada, o software maxqda foi utilizado para a análise inicial dos dados. Apesar de extensos estudos de pesquisadores em áreas portuárias, os clientes e o valor que lhes foi fornecido não receberam muita atenção dos pesquisadores iranianos. Consequentemente, o desenvolvimento deste modelo educacional com poder explicativo apropriado para examinar a natureza da competitividade proposta baseada em valor (do ponto de vista dos clientes) e como e por que a competitividade baseada em valor exigia a necessidade de conduzir o presente estudo e foi tentada preencher a lacuna principal entre uma situação ideal e uma situação existente, ou seja, a falta de acesso a um modelo local com poder de explicação adequado.

**Palavras-chave:** competitividade, modelo, Valor proposto, portos, navegação marítima.

## 1 INTRODUCTION

Competitiveness is a key issue that should be viewed differently in organizations in recent years, so different perspectives on the determinants of competitiveness is presented (Thompson, 2001). Therefore, the search for new ways to compete in the competitive markets is a key element of marketing (Griffith, 2001). Competitiveness as a multi-dimensional concept is also evaluated using variables such as the degree of organization's adaptability to changes in the business environment, competitive advantage and performance indicators (Achrol, 1999). In the age of globalization, competitiveness is an important issue among policymakers and it is considered a means of achieving favorable economic growth and sustainable development (Dess & Lumpkin, 2003). The competitiveness model in the port and maritime organization is a model that establishes a balance between the benefits and costs of supply and demand side (Gahan & Silverman, 2006). Whenever this relationship reaches an optimal point in practice, long-term success in business is guaranteed. This model is very valuable and provides an effective analytical basis for evaluating different managerial approaches and their impact on the success of organization, but this model is more general to be effective on managerial decisions directly (Mc Aulay et al, 1997). This analysis describes how competitiveness is formed in the real environment and illustrates how well each of the quality attitudes prepares the organization for success in the competitive environment (Skandia, 1997). The analytical integration of the competitiveness model with different quality attitudes showed that not all of these attitudes could contribute equally to the creation of competitive advantage (Skyrme & Amidon, 1997). The most effective approach is a value-based approach that considers customer interest and cost of production in an effective and balanced way (D'Cruz and Rugman, 1992). This attitude, not only in terms of quality, but also in all managerial decisions, can be a guiding indicator to greater success and competitiveness of the organization (Bontis et al, 2000).

Competitiveness in the port and maritime organization is defined as the ability and willingness to enter the competition. From the economic perspective, Michael Porter defines competitiveness as equal to productivity and how an organization or nation uses its human resources, capital and natural resources (Bontis, 1996). On a micro scale, competitiveness refers to the value that a product creates for a customer compared to a competitor, and this depends on two important factors: the degree of desirability fulfilled by ownership or capturing a product for the customer (benefits) and the amount of cost generated from owning or capturing that product for the customer (Bontis, 1999). Excellence in either of these two factors makes the organization competitive. In the port industry, due to the variety and complexity of their needs and expectations,

customers are able to simply switch to ports that provide more complete and better services through a variety of channels (Bontis, 2001). Along with these, it should be considered that not only having the efficient technical capability can guarantee to provide the required customer service, but also the analysis of the business position and knowing the actual needs of the customers are crucial for the competitiveness of ports (Bontis, 2002). The purpose of this paper is to explain a specific model of competitiveness, at enterprise level not industry or national levels (Bontis, 2003).

**Review of literature**

(Bontis et al, 2002); In a study "Factors Affecting Competitiveness in Iran of Iran and the countries of Southeast Asia" investigated that the competitiveness presented in the development of theories of competitive advantage and transformation emphasizes the effective growth of productivity and per capita income in the international process. The results indicate that the impact of oil revenues on oil rich countries on competitiveness is only fulfillment of basic needs, and non-oil countries have increased competitiveness by relying on efficiency.

(Bontis et al, 1996), In a study "The Impact of Government's Role on Competitiveness", stated that effective real exchange rate is considered as one of the most important factors of international competitiveness. Generally, the findings of the study show that increasing the role of government reduces the competitiveness of domestic goods at international level.

(Bontis, 1998), in a study "A Competitive Strategic Position Analysis of Major Container Ports in Southeast Asia" stated that the importance of planning strategies to achieve higher competitiveness has become more apparent in the context of seaports since seaports have been encountering quickly changing and highly competitive business environments. Therefore, the strategic competitive position of seaports needs to be investigated using strategic positioning methods. The purpose of this study was to analyze the competitive positions of the top 20 container ports of five countries in the Association of Southeast Asian Nations (ASEAN-5) in six years from 2009 to 2014.

(Bozbura, 2004); in a study "Proposal of a model to measure competitiveness through factor analysis" Presented a simultaneous competitiveness measurement model for the three geographical levels: country, states, and municipalities. For this, a multivariate factor analysis method was used to help identify five factors, seven sub-factors, and thirty variables. The results indicate that, in 2010, the municipality of Hermosillo was the most competitive.

(Ambashtah & Momaya, 2002); in a study "Marketing innovation: A consequence of competitiveness" used complexity theory to probe the relationship between competiveness and innovation in the marketing practices of large manufacturing firms that offer their branded products in a foreign market by engaging a network of local small- and medium-sized enterprises (SMEs) as resellers of their brand. This study finds that innovativeness in the marketing initiatives of the brand can be a function of the contributions made by the brand to its competitiveness. Nevertheless, the findings are also subject to some limitations and provide direction for future research on the topic.

## 2 MATERIALS AND METHODS

In the first phase of qualitative studies in order to understand the nature of competitiveness based on proposed value in the port and maritime organization, the grounded theory method based on customer perspectives and in the second qualitative phase, identification of the method of competitiveness based on proposed value in the port and maritime organization, interactive qualitative analysis method using expert views are used. The study area is the ports and maritime organization (Shahid Rajaee Port), 15 kilometers from Band Abbas in Hormozgan province. The statistical population (N), in the first qualitative phase for formulating the grounded theory model, is the statistical population consisting of legal customers of owners of goods, shipping lines including bulk, containers and downloading and loading companies of Hormozgan Ports and Maritime Administration. In the second qualitative phase and in the interactive qualitative analysis, the statistical population consists of experts related to the research topic in the form of a focus group. Also, the purposeful sampling is used in the form of forming focus group with snowball method.

In the qualitative section of the grounded theory, the maxqda software was used for initial data analysis. In the interactive qualitative analysis section, after identifying the research objectives and questions, the first step in collecting data in the interactive qualitative analysis method is to identify the internal links in the system under study that are referred to as systematic fragments by Northcutt & McCoy and is based on the participants' experiences of the phenomenon under study, and the set of laws and correlations are used inspired by system theory. Based on the data of these systematic exploration, the internal link relations Table, the internal relationship Chart, and then the system impact Diagram are plotted and the analysis is performed on the basis of these methodological measures (Figures 1 and 2).

## 3 RESULTS

### Terminology of design

Competitiveness: competitiveness is defined by empowerment and willingness to enter the competition. From the economic point of view, Michael Porter defines competitiveness as the productivity and how an organization or nation uses its human resources, capital and natural resources (Amidom, 1999). On a micro scale, competitiveness refers to the value that a product creates for a customer compared to a competitor, and this depends on two important factors: the degree of desirability fulfilled by ownership or capturing a product for the customer (benefits) and the amount of cost generated from owning or capturing that product for the customer (Carayannis & Popescu, 2005).

Proposed value: It represents the products and services that create value for a particular customer section. In fact, the proposed value is the reason why a company is preferred to other companies by customer. Each proposed value is made up of a selected package of products or services that meet the needs of a specific section of customers. In other words, the proposed value in a business model is a set of benefits that the company offers to customers.

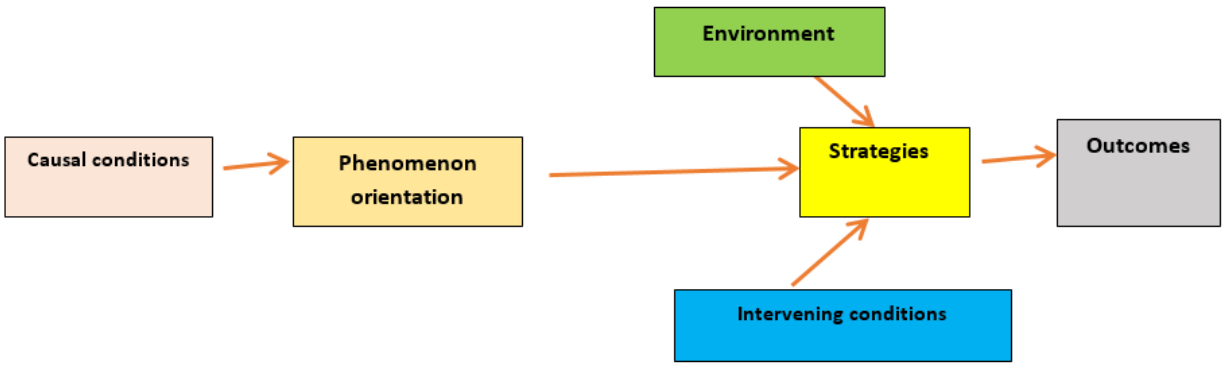



**Figure 1-** The paradigm model of the grounded data theory

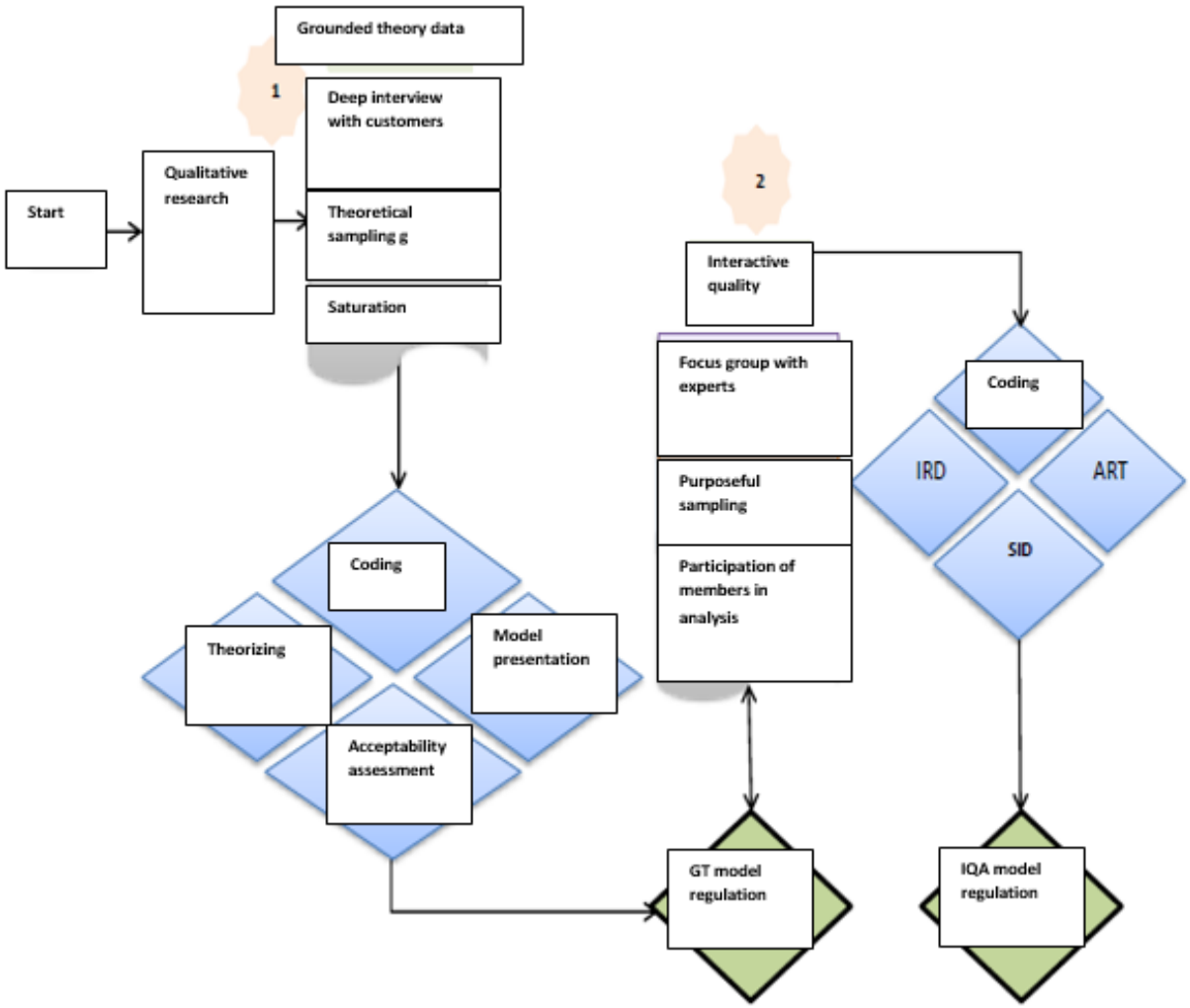



**Figure 2-** Research methodology

## 4 DISCUSSION

### Axial coding

*Codes, concepts and causal condition categories*, (Cater, 2001) causal conditions refer to the events leading to the occurrence or growth of phenomena. When such symptoms are absent, causal conditions can often be found by looking at the phenomena themselves and by regularly looking at the data and reviewing events or that precede the phenomenon (Table 1).

**Table 1-** Codes, concepts, and categories of causal conditions

| **Secondary codes** | **Concepts** | **Categories** | |
|---|---|---|---|
| Economic benefits of port customers | Functional value of ports | Received values of customers | **1** |
| Proper responsiveness to customers of ports | | | |
| Receive services as facilitated to customers | | | |
| Get high quality services distinct from competitors | | | |
| Diverse customer service ports | | | |
| Service flexibility | | | |
| Saving of time among customers of ports | | | |
| Support customer at non-working hours | Emotional value of ports | | |
| Remembering the name and profile of customer | | | |
| Respect the port customers | | | |
| Intimacy with the customer | | | |
| Pay attention to the emotional aspect of customers | | | |
| Modern ports to the changes of presenting services | Cognitive value of ports | | |
| Perceive customer value by the managers of queue and staff | | | |
| Communication after receiving services | | | |
| Recognize the port customers | | | |
| Perceived risk of port customers | | | |
| Lack of customer confusion in receiving services | | | |
| Consistency with customer values | | | |
| Create brand equity of customer | Social value of ports | | |
| Distinction of the social status of customer from other customers | | | |
| Social responsibility to customers | | | |
| Deep relationship with customers | | | |
| Understand the position of customers | | | |
| Transship of goods | Situational value of ports | | |
| Transit of goods | | | |
| Being in international corridors | | | |
| Research and development | Innovation capital of ports | Innovation and creativity of organization | **2** |
| New service development | | | |
| Relationship with research and consulting institutes | | | |
| Program | Power of using IT | | |
| Port equipment | | | |
| Knowledge | | | |

| | | | |
|---|---|---|---|
| Culture | | | |
| Knowledge acquisition | Knowledge management | | |
| Knowledge creation | | | |
| Knowledge integration | | | |
| Knowledge support | | | |
| Knowledge dissemination | | | |
| Loyalty of ports customers | Customer capital | | **3** |
| Relationship of organization with the ports customers | | | |
| Satisfaction of port customers | | | |
| Attract new customers | | | |
| Keep port customers | | | |
| Profitability of port customers | | | |
| Loyalty of ports customers | | | |
| Intelligence of marketing and commercial | | | |
| Technological intelligence of ports | Competitive intelligence | Position of competitors and organization in the market | |
| Strategic and social intelligence | | | |
| Flexibility of port operation | Flexibility | | |
| Plan flexibility | | | |
| Labor force flexibility | | | |
| New design flexibility | | | |
| Modification flexibility | | | |
| Process flexibility | | | |
| Market flexibility | | | |
| Value added services | Productivity | | |
| Optimal use of facilities | | | |
| Services efficiency | | | |
| Services effectiveness | | | |
| Continuous improvement of knowledge | | | |
| Market size | Market share | | |
| Market clustering | | | |
| Consistency with global growth | | | |

Codes and concepts of the axial phenomenon, Strauss and Corbin developed a process that the central category to confirm the role of researcher is used as theoretical reconstruction. This category occurs during selective coding. According to Strauss's theory (Cater & Alfirevic, 2003), the central category has six axial issues: 1. It is repeated often in the data.2. The link between the different data is 3. Because it is a central category, it then explains the variables in all data. 4. Applies to general theory 5. It can be analyzed and its movement is progressive.6 This variable helps to analyze maximum variables (Table 2).

**Table 2-** Codes, concepts, and categories of axial phenomenon

| **Secondary codes** | **Concepts** | **Categories** | **No.** |
|---|---|---|---|
| Business strategy | Ports competition analysis | Competitiveness | **1** |
| Marketing strategy | | | |
| Threat of new entrants | | | |
| Barriers of new competitors entrance | | | |
| Competition between ports | | | |
| Bargaining power of customers | | | |
| Competition understanding | Pots competition management | | |
| Competition analysis | | | |
| Supervision of competition | | | |
| Competition detection | | | |
| Lack of international sanctions | Dissatisfying factors | Proposed value | **2** |
| Inadequate respect to the customer personality | | | |
| Lack of suitable responsiveness | | | |
| Time wasting of customers | | | |
| Chantage of customers | | | |
| Taste and selection respect | | | |
| Proper price of services | Satisfying factors | | |
| Geographic position of ports | | | |
| Service flexibility | | | |
| Port accessibility | | | |
| Presenting enticing designs | Enticing factors | | |
| Create potential values to ports customers | | | |
| Present potential values to ports customers | | | |
| Launching the ports of third and fourth generation on the ground of IT | | | |

Codes, concepts, and categories of context phenomena represent contexts of a series of special properties that signify a phenomenon. In other words, the location of events or events

related to the phenomenon along one dimension. Context is a series of specific conditions in which interaction strategies are developed to control or respond to the phenomenon (Combs & Moorhead, 1992) (Table 3).

**Table 3-** Codes, concepts and categories of ground phenomenon

| **Secondary codes** | **Concepts** | **Categories** | **No.** |
|---|---|---|---|
| Entrepreneurial morale of human resources | Human capital | Organizational capital | **1** |
| Technical knowledge of human resources | | | |
| Education of human resources | | | |
| Knowledge relevant to human resources work | | | |
| Professional competence of human resources | | | |
| Flexibility of human resources | | | |
| Costs management | Financial capital | | |
| Assets application | | | |
| Technical equipment | Physical capital | | |
| Physical assets | | | |
| Organization commercial brand | Spiritual resources of ports | Intangible resources | **2** |
| Certificates | | | |
| Spiritual intelligence | | | |
| Patent | | | |
| Franchise | | | |
| Organization image | | | |
| Technology innovation process | Technological resources of ports | | |
| Technology development | | | |
| Technology dissemination | | | |
| Technology application | | | |
| Ports organization culture | Process resources of ports | | |
| Ports managerial processes | | | |
| Ports information system | | | |

Codes, concepts, and categories of intervening conditions, mediating conditions are broader terms that affect the interaction. These conditions include time, space, culture, economic status,

technology level, occupation, history, and life events. The grounded data theory is with the mutual action bias (Dagdeviren & Yuksel, 2010) (Table 4).

**Table 4.** Codes, concepts and categories of intervening conditions

| Secondary codes | Concepts | Categories | No. |
|---|---|---|---|
| Bad conditions in market | Economic conditions | Uncontrollable factors | **1** |
| Regulations of central bank | | | |
| Prescriptive reduction of bank rate | | | |
| Unsuitable business conditions in recent years | | | |
| Iran's economic stagnation | | | |
| Foreign exchange fluctuation | | | |
| Inability of movement in economic sanction conditions | | | |
| Consistency of ports with the change of governments | Political conditions | | |
| Inability of movement in political sanction conditions | | | |
| Influence of political managers in decisions | | | |
| Legal requirement of government | Rules and regulation | | |
| Requirements of road and urbanization ministry | | | |
| Requirements of economic special zone and free zone | | | |
| Legal requirement of Iran customs office | | | |
| Change some of the transit corridors around the world | Geographic conditions | | |
| Lack of access to airports for transit | | | |
| Business size of port customers | Value features of customers | Customers feature | **2** |
| Value level of port customers | | | |
| Purchase habit of port customers | | | |
| The life of customer CLV value | | | |
| Investment volume of customers | Capital and cost of changing customers | | |
| Change power of customers | | | |
| Port attraction before the competitors | | | |
| Good intention of customers | Validity of customers | | |
| Customers loyalty | | | |
| Validation of ports customers | | | |

| | | | |
|---|---|---|---|
| Working with the great liners around the world | Strengths of competitors | Competitor feature | **3** |
| Cooperation with large consulting companies around the world | | | |
| Update technology | | | |
| Suitable geographic position of Iran ports | Weakness of competitors | | |
| Skillful human resources in Iran | | | |
| Political and economic sanctions of Iran | Opportunity of competitors | | |
| Foreign investment | | | |
| Governmental nature of Iran transportation lines | | | |
| High risk of investors in Iran | | | |
| Economic stagnation around the world | Threat of competitors | | |
| Presence of pirates | | | |
| War at Middle east region | | | |

Codes, concepts and categories of strategies (Table 5).

**Table 5-** Codes, concepts and corresponding categories with strategies

| **Secondary codes** | **Concepts** | **Categories** | **No.** |
|---|---|---|---|
| Consistency of services with customers values | Value-based services of ports | Value creation | **1** |
| Present value creating services in IT | | | |
| Position of consistency of service with the values of customers of ports | | | |
| Present the plan of investment risk reduction | Proposed package of ports value | | |
| Access of customers to the value proposing packages | | | |
| Support after presenting value | | | |
| Classification of customers based on the value proposed package | | | |
| Present the values based on explicit and implicit request of customers | Considering customers value | Customer orientation | **2** |
| Create values based on the explicit and implicit requests of customers | | | |
| Port as the trusted commercial partners | | | |
| Collection of receiving different services in a port | Services customization | | |
| Customization of ports service quality | | | |

| | | | |
|---|---|---|---|
| Customization of speed of presenting services of port | | | |
| Flexibility to present services | | | |
| Present services online | Customer relationship | | |
| Improve IT-based processes of ports | | | |
| Support of customers of ports in non-working hours | | | |
| Facilitation of access of customers in relationship with management | | | |
| Update and comprehensive customer information | | | |
| Virtual information to ports customers | | | |
| Presence of automatic data warehouse system to collect and store data | Technical | Commercial intelligence | **3** |
| Integration and avoid dispersion of information | | | |
| Provide various reports | | | |
| reduce the volume of repetitive data | | | |
| Presence of permanent monitoring system and alarm | | | |
| Update data of ports | | | |
| Reduce uncertainty in decision making | Organizational | | |
| control and planning | | | |
| The effect of suitable control and planning | | | |
| Ability of future condition prediction | | | |
| Conscious decision making based on comprehensive and correct information | | | |
| Easy access to business information | | | |
| Increase competitive advantage of ports | Business | | |
| Improve cooperation of ports with commercial partners | | | |
| Modify ports business processes | | | |
| Monitoring of business activities | | | |
| Identify existing bottleneck | | | |
| Flexibility against changes | | | |
| Compare the condition of organization against the competitors | | | |
| Income increase | Operational | | |
| Increase the speed of presenting services to customers | | | |
| Reduce the costs of presenting services to customers | | | |
| Increase the quality of presenting services | | | |

| | |
|---|---|
| Control resources and suitable allocation of equipment | |
| Reduce waiting time of ships | |

Codes, concepts, and categories of consequences, actions, and reactions for the management and control of a phenomenon have consequences that cannot always be predicted and are not necessarily those intended. Mutual behaviors may have consequences for people, places, or objects. The consequences can be accidents or incidents, such as disease worsen by ignoring diet (Table 6).

**Table 6-** Codes, concepts and categories of consequences

| **Secondary codes** | **Concepts** | **Categories** | **No.** |
|---|---|---|---|
| Reduced costs of ports customer | Financial benefits of customers | Customers benefits | **1** |
| Increase customer revenue | | | |
| Increase service speed | Non-financial benefits of customers | | |
| Security of capital | | | |
| Time saving of customer | | | |
| Trending customer respect | | | |
| Reduce bureaucracy | | | |
| Respond customers values | | | |
| Reduce the risk of ports customer | | | |
| Reduce organization cost | Financial benefits of organization | Organization benefits | **2** |
| Increase organization profit | | | |
| Improve business conditions | | | |
| Loyalty of ports customer | Non-financial benefits of organization | | |
| Satisfaction of ports customer | | | |
| Absorb new customers | | | |
| Reduce the risk of market and industry stagnation | | | |
| Improve customer perception of service quality | | | |
| Increase competition power | | | |
| Better image of organization | | | |
| Improve organization brand | | | |
| Customer commitment | | | |

| | | | |
|---|---|---|---|
| Job increase | Financial benefits of society | Society benefits | **3** |
| Economic prosperity of society | | | |
| Entrepreneurship | | | |
| Improve social responsibility of organization | Non-financial benefits of society | | |
| Considering environmental issues | | | |

*Selective coding*

Selective coding goes through a process whose first step is the main story line. The second step is to link the supplementary categories. The third step is to relate the categories to each other in the next level. The fourth is to confirm those relationships regarding the data. The last step is to complete the categories that need to be modified or expanded. These steps are not necessarily sequential, but rather the researcher comes and goes between them. Selected coding reaches the final stage with theoretical saturation. Theoretical saturation means more coding, reinforcing categories, and so on and do not provide new knowledge. At the same time, the method is so flexible that the researcher can re-enter the same source texts and codes from open coding with a different question. The purpose is to formulate a grounded theory of a different subject. In grounded theory, we relate sub-categories in a series of relationships to a category that is an expression of the causal conditions of the phenomenon, context, mediating conditions, interaction strategies, and consequences.

According to the findings of the axial coding step, the grounded model is in accordance with the following chart:

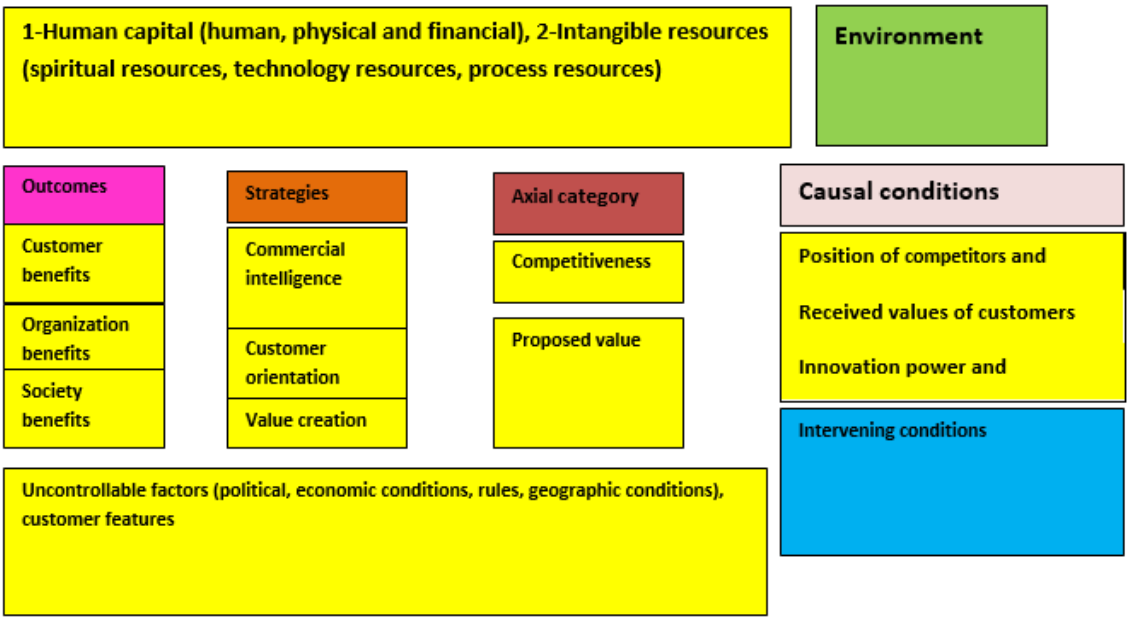



**Figure 3-** The paradigmatic model of grounded theory

**Creating ART table**

In this step, the relationships between the factors will be explained by analyzing all possible pairs of relationships. During this phase, the ART correlation table was completed, in which all perceived relationships were summarized.

**Table 7-** Description of internal links

| Explanation | Name of internal link | Code |
|---|---|---|
| It represents the services that competitors create value for a specific customer segment. In fact, competitors' proposed value is the reason customers prefer a port over other ports. | Proposed value of competitors | **N1** |
| New Service Development (NSD) is a set of activities and growth policies that are at different stages of delivering better services that lead to partial or total service modifications for different segments of the market. Due to the intense competition and the existence of services as an (intangible) intellectual property, supporting the service development process seems very difficult. | New service development | **N2** |
| Customer expectations are those that are definitely not needed, but fulfilling them creates a pleasant feeling that causes the stability of relationship. So it seems that customer | Customers expectation | **N3** |

| | | |
|---|---|---|
| satisfaction has a direct relationship with meeting their expectations. | | |
| Port flexibility refers to improvement after shock and returning the normal state and refers to the adaptability with changes. | Flexibility | **N4** |
| It involves a set of factors or capabilities that always enable a port to perform better than its competitors. In fact, it occurs when a port achieves improvements, capabilities, and development in an attribute or combination of attributes compared to other competitors. | Improve the competitive position of organization in market | **N5** |
| They accept that employees have the right to think for themselves and their desires, aspirations and priorities. Employees have the right to talk about their rights while working and loving their work. They also want leave and think about growth and progress. Complain about low learning, and in short, employees of an organization cannot, at the moment of entry into the organization, abandon all their personal concerns and desires and work as a gear in a large mechanical structure. | Management of organizational behaviors | **N6** |
| Deep commitment to repurchasing or re-choosing the organization's services, continually in the future, that even if competitors make efforts to attract customers, loyal customers will continue to use the port. | Customers loyalty | **N7** |
| Improving customer perception of the port of what is used, received, determined and it is in fact what is obtained by the customer. | Improve the received value of customers | **N8** |
| Actualizing the empowerment of ports using private sector resources based on resistive economy with the great impact of government and change of policies of organization with the change of ministries and government on organization. | Policies of government and organization | **N9** |
| where systematic risk is high in the country or the country faces negative news in the field of international politics and economics, it shapes people's expectations for rising inflation and exchange rate growth and this leads to a sharp influx of liquidity into the non-productive and speculative sectors, making it harder for productive and service sectors, especially ports. With a high presence on transit routes and proximity to central Asian markets, it can serve as a bridge between East and West to make things better. | International economic, political geographical conditions | **N10** |
| Proposal management of customers is a strategy for management of all recommendations of potential customers and its current customers and helps to increase business profitability. | Management of proposal of customers | **N11** |
| Information Technology is the use of computers and other technologies to work with information, here any technology whether any device or technique is considered. | IT development | **N12** |

| | | |
|---|---|---|
| Competitive competence is the increasing attractiveness of port offers compared to competitors in terms of customers. In fact, port competitiveness is a feature differentiation that enables it to provide better services than competitors (better value) to customers. | Competitive competence | **N13** |
| Competitive advantage development is defined as the economic ability of ports to increase their share in international markets based on its competitive advantage. | Competitive advantage development | **N14** |

Finally, the output of this step was in accordance with the table above. In the process of the second focus group meeting, the interview manager discussed the relationship between the identified components and asked the focus group members to complete the IRD initial chart separately and explain the relationships between each internal link pair. After incorporating the comments, the relationship between the components was aggregated in the form of an IRD chart and a final ART table. In the initial chart as the result of views of experts, the numbers inside each home indicate the frequency of each relationship. However, in reading INS and OUT values , only the number of relations is counted not their frequency.

*Identification of important analytic relationships*, in accordance with the approach introduced in the methodology of interactive qualitative analysis, at this stage, we should determine which relationships should be excluded from the final model. Northcutt & McCoy believe that relationships that have only one frequency should be ignored. It is also important to determine which relationships are responsible for the highest variance. As the cumulative frequency column shows, out of the total of 67 relationships stated by experts, the first 10 relationships account for about 30% of total relationships. To obtain the minimum number of relationships possible, we place the cut-off point at the location where the maximum power is possible and as a result the minimum power relations are ignored. Accordingly, in the 29th relation, the maximum possible power was obtained 0.293.

Drawing a graph of internal relations is the first step in a process called system logic. The matrix shown in this diagram shows the state of the relationships derived from the Pareto protocol. In the final diagram of columns, the relationships are ordered with the highest delta to lowest delta. Positive delta relationships are explained as drivers or causes, and negative delta relationship will be explained as influences and outcomes. Zero-delta relationships were also labeled axis or circular relationship. Also the relationships with the highest delta were categorized as the primary driver and the other relationship as the secondary driver. Regarding the outcomes, the same is true. As

can be seen in Fig. 4, the final IRD, given the relationship of N14, N10, N6, N2 beneath cut off point, these internal affinities will not appear in the final model.

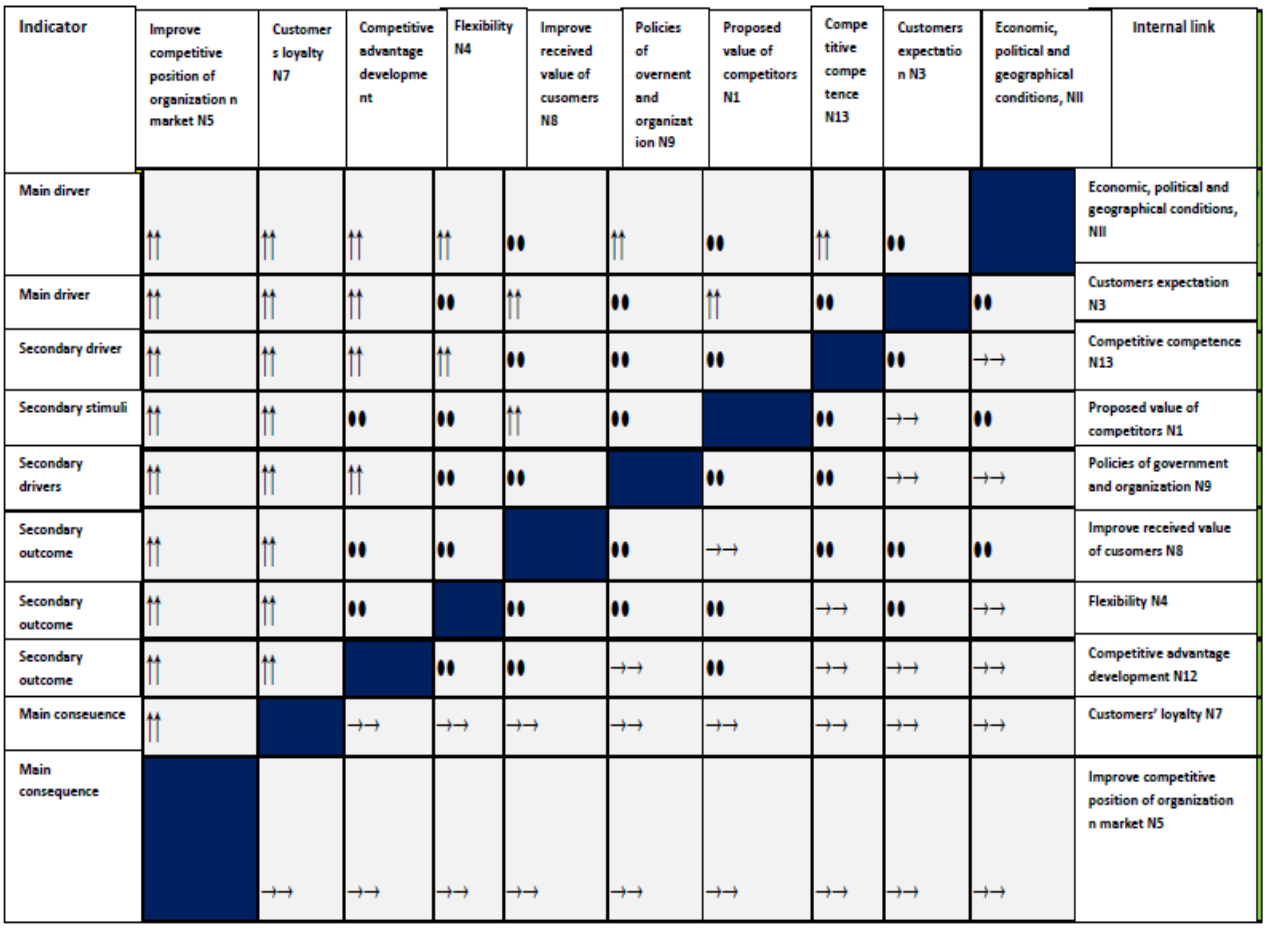



**Figure 4-** Final IRD

SID systematic influence diagram, In the last step of focus group data analysis, the resulting clusters and affinities were summarized in the SID diagram. To create this chart, at first the boxes showing each affinity is plotted as the outcomes are placed in the right side and drivers in the left size, the next step in plotting SIT is drawing relationship between affinities (as shown in ART). Thus, if indirect relationship connects two affinities, direct links between affinities are eliminated. The first chart is used as the irregular systematic influence (Figure 5) & (Figure 5).

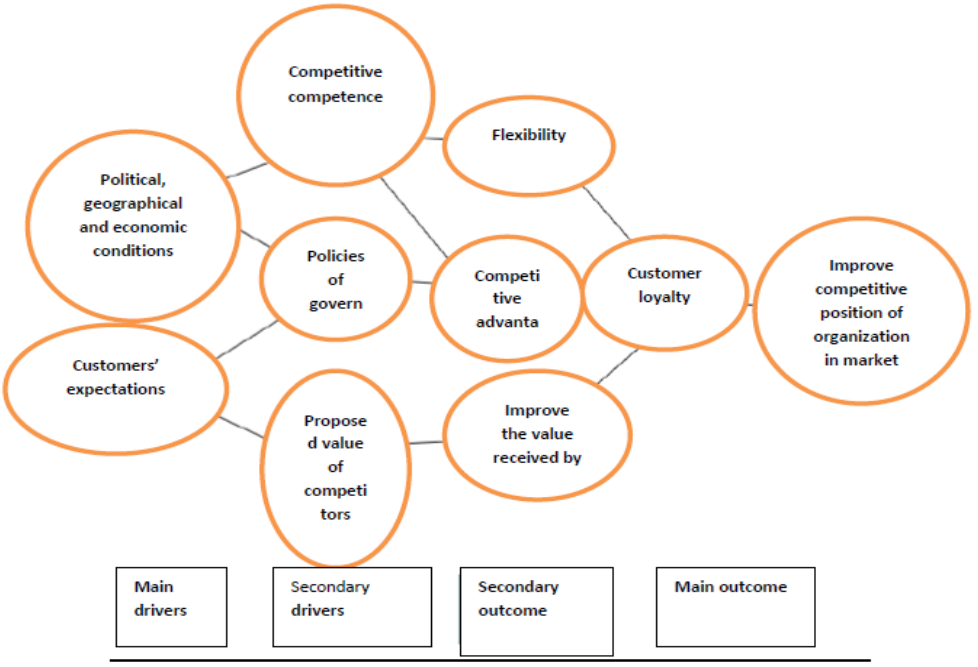



**Figure 5-** Cluttering of SID interactive qualitative analysis in the current study

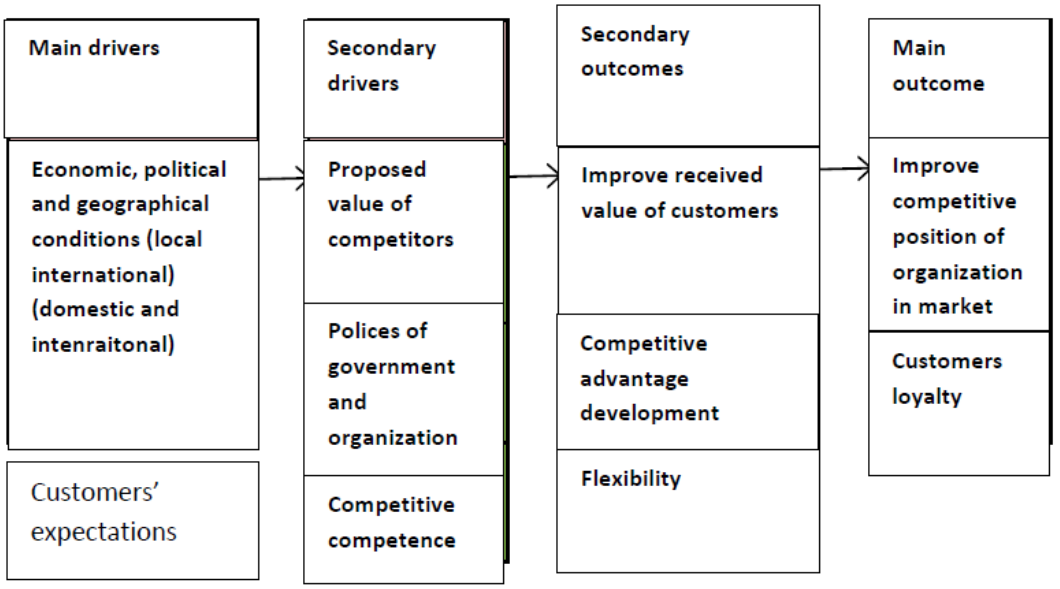


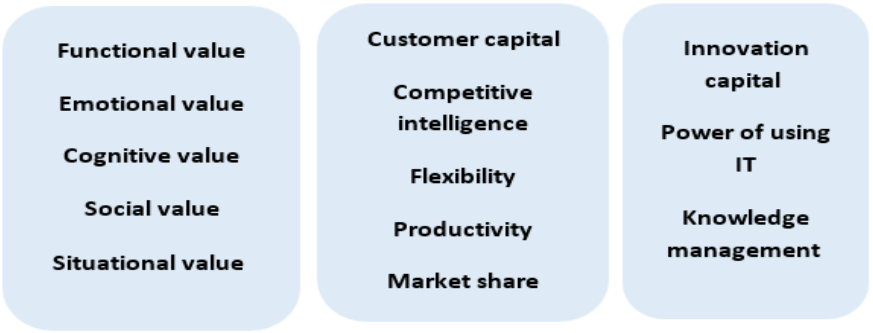

**Figure 6-** Cluttered SID extracted from interactive qualitative analysis (interactive qualitative analysis application model)

Characteristics of interactive qualitative application model: 1. From the view of focus group, this research is presented (formulating a competitiveness model based on proposed value in the Ports and Maritime Organization) 2. Due to the specific circumstances of the study, the

competitiveness model based on the proposed value is developed and expanded in the Ports and Maritime Organization (Shahid Rajaee Port). 3. The model is merely summarized and aimed at simplifying relationships. The full spectrum of relationships is evident in the early uncluttered model and ART table. Accordingly, the absence of a link between the categories included in the final model does not necessarily mean that there is no relationship between the two categories. 4. In order to simplify the interactive qualitative analysis model, the direct relationship is eliminated in case of the presence of indirect relationship between two internal links.

## 5 CONCLUSION

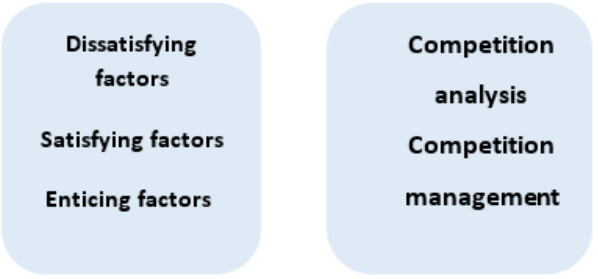
Discussion regarding causal conditions, in the formulation of a competitiveness model based on proposed value in the port and maritime organization, causal conditions are referred to events that lead to the occurrence or growth of phenomena.




In formulation of the competitiveness model based on the proposed value in the Ports and Maritime Organization and determining the causal dimensions of the phenomenon under study, it was attempted to place those indicators, features, codes and concepts that drive the development of a competitiveness model based on proposed value in the Ports and Maritime Organization to be classified as open, axial and selective encodings under one set. Accordingly, the causal conditions in the present study consist of the concepts of "innovation power and creativity of the organization" and "competitors position and organization in the market" "values received by customers."

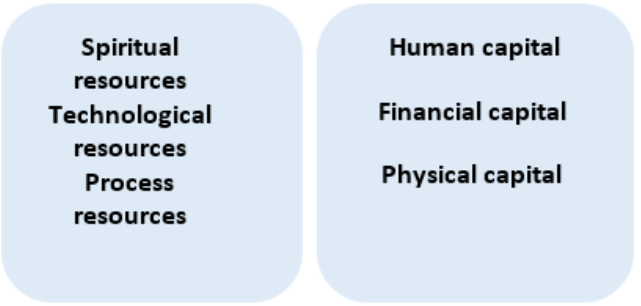
*Discussion about the axial phenomenon*, the main topic of research was formed as the competitiveness model of ports based on the proposed value of the Ports and Maritime Organization. During this interview process, the researcher sought to find out what is the competitiveness model of ports based on the proposed value from the view of customers. During

the zigzag process, data collection and analysis were identified in accordance to grounded model, many codes were identified.




In the research on competitiveness model based on the proposed value in the Ports and Maritime Organization, the discussion of the axial phenomenon in determining the dimensions of the axial phenomenon under study , it was attempted those indices, features, codes and concepts that drive the development of a competitive model based on the proposed value in ports and maritime organization, it is placed in the form of open, axial and selective coding in a set. Accordingly, the axial phenomenon in the present study consists of the concepts of "competitiveness" and "proposed value".

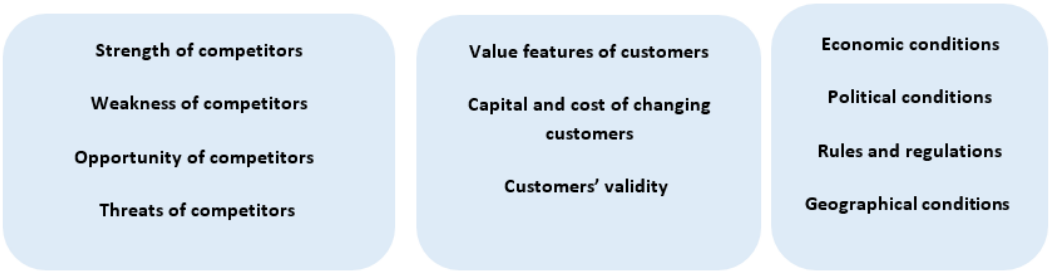
*The discussion of context conditions,* in the formulation of a competitiveness model based on the proposed value in the port and maritime organization, context shows a series of special characteristics that signify a phenomenon. In other words, the location of events or events related to the phenomenon along one dimension. The context is a series of specific conditions in which interaction are used to control or respond the phenomenon.



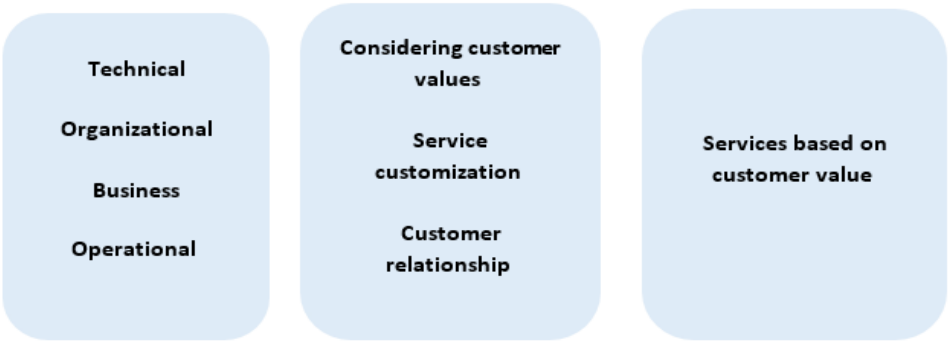

The criterion for the inclusion of these factors is contextual conditions expressed in two key factors: First, the factors are intangible so that at first glance they are not transparent, and are in the background, also, the fixed nature of factors as their changes are little to consider them as contextual conditions. It is also noteworthy that the contextual conditions are generally less controllable than the interfering conditions, and their understanding will require deeper and

fundamental studies. In this research, the formulation of competitiveness model based on the proposed value in Ports and Maritime Organization identified two categories in the field of context phenomenon.

*Discussion of intervening conditions,* in the formulation of a competitiveness model based on the proposed value in the Ports and Maritime Organization, mediating conditions are broad conditions affecting mutual influence. These conditions generally include: time, space, culture, economic status, level of technology, occupation, history, and one's life events. Grounded theory is the theorizing method with biased mutual interaction. The subject matter of the study, whether it is individual or group, mutual action is used with the aim of managing, deal with, accomplish, showing sensitivity to a phenomenon that is understood in a particular context can be perceived. The interaction element is focused both on the individual and on the interaction of the other group members.




Accordingly, in the grounded model of this study, three categories of uncontrollable factors, customer characteristics, and competitor characteristics are classified under contextual conditions. *Discussion of strategies,* In order to develop a competitiveness model based on the proposed value in the port and maritime organization, strategies are based on actions and reactions to control, manage and deal with the phenomenon in question. Strategies are purposeful, intended, and are occurred for some reasons. There are always intervening conditions that facilitate or limit strategies.



According to customer statements, a set of different strategies are identified for competitiveness based on the proposed value in the port and maritime organization in three categories: business intelligence, value creation and customer orientation.

*Discussing about outcomes,* for developing a competitiveness model based on the proposed value in the ports and maritime organization, the results emerging from the strategies are the outcomes of the results of the actions and reactions. Outcomes cannot always be predicted, and they are not necessarily what people intended. Outcomes can be events, be negative, be real or implied, and occur in the present or future. It is also possible that what is considered to be an outcome at some point in time becomes part of the conditions and factors.


Intelligent consideration of customer proposed value can have many benefits for ports, and the effects of this improvement will eventually return to the competitive field of ports. In this regard, in the current study, three categories form the overall outcomes of the grounded model. The categories include: - Customer benefits, - Organization benefits, - society benefits.

*Comparing the findings of the two contextual and interactive approaches,* in order to formulate a competitiveness model based on the proposed model in the port and maritime organization by using the dual approach simultaneously, the perspectives of customers and port experts were investigated. However, a contextual approach was used based on the consideration of the view of customer. The reason for adopting this approach was to gain a deeper insight into the nature of the phenomenon studied, namely relationship with ports customer. Regarding the methodology of the grounded theory, the main strength of this method is in its strong understanding of the conditions under study with the aim of theorizing. On the other hand, interactive qualitative analysis was suitable to investigate the nature of approach. Besides using this approach, the researcher has a good understanding of the reasons for the ports' attention to competitiveness and proposed value and has carefully examined this from the perspective of the primary drivers of the final model. However, the main drivers can be considered as causal conditions in grounded theory approach, however, the IQA provides a more focused and facilitated approach to identify and understand these drivers. How to achieve an optimal system of competitiveness and proposed value are other achievements of the relevant IQA research model that are visually

represented as secondary drivers and outcomes. This set of internal links has a great semantic relevance to the strategic conditions underlying the grounded theory. However, because of their exploration through the brainstorming approach in focus group, they are very rich and comprehensive. In this regard, we can refer to the number of initial codes in the initial steps of the two methods of interactive qualitative analysis and ground theory can be noted, although the focus group time is (over 4 hours) approximately one-third of the total time spent interviewing of grounded theory, the number of extracted codes had double frequency in IQA method. The other characteristic of the IQA approach is the high applicability of the final model based on the specific organizational conditions of the phenomenon under study. Also, using the grounded theory approach presented a more theoretical model with rich theorizing capability. However, interactive qualitative approach by using the experts view, showed new theoretical propositions for the researcher. To formulate the competitiveness model based on the proposed value in the ports and maritime organization in the following Table, the extracted categories and concepts of IQA, GT approaches are compared (Table 8).

**Table 8-** Comparison of the concepts and categories extracted from IQA and GT approaches

| **Interactive qualitative analysis (experts view)** | | **Grounded theory (customer view)** | |
|---|---|---|---|
| Economic, political and geographical conditions (local and international) | Main drivers | Position of competitors and organization in the market | **Causal conditions** |
| Customers expectation | | Received values of customers | |
| | | Innovation power and creativity of organization | |
| | Axis | Competitiveness | **Axial phenomenon** |
| | | Proposed value | |
| Proposed value of competitors | Secondary drivers | Organizational capital (human, physical and financial) | **Environment** |
| Policies of government and organization | | Intangible resources (spiritual resources, technological | |

| | | | |
|---|---|---|---|
| Competitive competence | | resources, process resources) | |
| | | Uncontrollable conditions (political, economic conditions, rules and regulations, geographical conditions) | **Intervening conditions** |
| | | Features of legal customers | |
| | | Competitors feature | |
| Improve receive value of customers | Secondary outcomes | Business intelligence | **Strategies** |
| Competitive advantage development | | Customer orientation | |
| Flexibility | | Value creation | |
| Improve competitive position in market | Main outcomes | Customers benefits | **Outcomes** |
| Customers loyalty | | Organization benefits | |
| | | Society benefits | |

**Conflict of Interest:** this manuscript supported financially and scientifically by Iranian ports and maritime organization

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Received on: 01-17-2020
Approved on: 02-21-2020
Published on: 03-02-2020