International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

INTERNATIONAL ORGANIZATION OF
IOAS
ACADEMIC STUDIES

proposing a model that explains the relationship between stakeholder demands, sustainability and efficiency improvement in the Chabahar maritime transport industry

[1*]Marjan Zolfaqar *
[1] Master's student In maritime transport management.
[2]Alireza Sufi
[2]Master of Business Administration MBA.
[3]Amir Tahaminejad
[3]DBA professional business management doctorate.
[4]Mahdie Mirzaei Bahmani
[4]Master's student In marine business management.
[5]Zahra Karimi
[5]Master's student In English language education.

Abstract
The purpose of this research is to propose a model that explains the relationship between stakeholder demands, sustainability and efficiency improvement in the Chabahar maritime transport industry. The current research uses both qualitative and quantitative methods to analyze its data, as well as a descriptive-survey (field) method.
The data collection method is library and field type. And the tools of data collection in this research include things like interviewing technical experts and specialists, distributing questionnaires, referring to specialized libraries, document centers and archives of organizations in charge of maritime transportation in the country.
In the next step, in order to determine the relationships between important and related components and to explain the conceptual model of the research, the Delphi technique is used to screen the components and indicators, interviews with experts, distribution of questionnaires among them, and SPSS and Lisrel statistical software.
In the final step, analytical statistics techniques are used to test the model, and the structural equation modeling method is used to develop the final model.
And for the ease of statistical analysis, SPSS and Lisrel statistical software are used. The obtained results showed that the final model of the research has a good fit, so that the hypothesis related to the direct impact of the demands of the beneficiaries on improving the performance of the maritime transport industry was accepted.
Finally, after the interpretation of the results of the final research model, some suggestions were also presented for future researchers and practitioners.
Key words: Stakeholders demand, transportation industry, sustainable development

Introduction
The creation and expansion of a cluster of various industrial and commercial activities in the main and important international ports has enjoyed great momentum during the last decade.
which naturally continued during the current decade as well. And now in many ports of the world, even the ports of the region are developing .
Providing new services in ports not only strengthens the economic performance of the port and the benefits derived from it, but it has naturally continued during the current decade and is now developing in many ports of the world, even regional ports.
(Khanalizadeh, 2019) but at the same time, it creates the necessary attraction for keeping current customers and attracting new and potential customers for the port. And it will maintain, improve and significantly strengthen the competitive position of the port.
In order to sustain the competitive advantage, it is necessary to continue the development of the services provided by the port or the necessary investments in

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

order to be at the forefront of the competition.

The stability of the competitive advantage resulting from the application of this type of strategy can lead to an increase in the efficiency of the economy of scale through an increase in the volume of goods imported into the port, or an increase in the number of ships entering the port.

The time required to apply such strategies, assuming that the competitor ports also apply a similar strategy. However, in most cases, competing ports will avoid applying the same strategy.

And instead of implementing similar strategies, they look for a strategy that suits them. It means that it is financially less expensive and the investment in it is justified.

Today, transportation is one of the important and basic components of the national economy. This section includes the activities that have been carried out widely in all fields of production, distribution and consumption of goods and services and has a significant role In the economic activities of countries. (Shahriyar, 2018).

It Is impossible to imagine the development of countries without a wide transportation network, suitable infrastructure such as facilities and auxiliary equipment and a suitable fleet.

The transportation sector affects the main variables of the country's economy in the short, medium and long term, such as the total production of production in economic sectors, total employment, employment in economic sectors, foreign direct investment, prices in different economic sectors, and cost of living index.

Short-term effects include those related to increases or decreases In the cost of living directly through the transportation costs of each family and Indirectly through the effect of transportation prices on the prices of other goods and services.

And the medium-term effects include the effect of transport prices on the consumption of alternative services such as communications, and the long-term effects refer to changes In the basis of economic calculations for production and construction projects. Rahmanian (2017)

In international trade, maritime transport accounts for approximately 90% of all trade. Measured in tons, this amount is about six billion tons of all kinds of goods, of which one-third are petroleum products, one-third are dry and bulk goods, and the rest are small goods.

Thanks to the achievement of such a percentage in world trade, the importance of trade and maritime traffic can be seen as two inseparable parts.

The global and maritime industry is the world's largest international industry, employing more than 2.5 million people. It seems that providing efficient services in maritime transport is one of the necessary and effective parameters for successful international trade.

Examining the development process of trade shows the simultaneous development of such transportation. Efficient transportation will certainly increase international trade.

And in this regard, It seems necessary to have international institutions that have the power to organize and coordinate while monitoring this event globally.

Conventions approved by the International Maritime Organization are classified as safety, pollution, liability and compensation and other agreements.

And by Issuing interstate resolutions, treaties and memoranda of understanding, they are always taking steps towards the implementation of sustainable maritime trade.

In spite of this, there are factors that impact the sustainability of maritime trade.

Including dealing with issues of piracy, maritime conflicts and environmental pollution, the World Maritime Organization

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

and other international systems such as the United Nations have taken action in recent years and Intend to address these problems. In this way, the maritime trade can continue stably and continuously. More than 90% of the world's trade is carried across the oceans and more than 80% of the world's largest cities are located by the sea.

And out of the 20 largest cities in the world, only 2 cities are not located near the sea. In general, global approaches show countries' attention to the sea as the axis of development and authority.

But this Is despite the fact that Iran's development Is more turbulent than the sea. Currently, none of the country's 20 largest cities are considered port cities. (Ramezan, 2016)

The first chapter of the country's maritime industry strategic program document focuses on maritime transport.

And the volume of global maritime transport is expressed in products, which shows the growing attention to this sector. And this led to a global increase in maritime traffic between 1980 and 2014.

In Iran, on the other hand, about 90% of the total weight of export and import goods and 60% of the total value of land and trade are unloaded and loaded in sea transport.

However, sector statistics show that during the analyzed period there were no significant changes in the tonnage of national and maritime transport.

Support services are one of the most important parts of the value chain for the production and distribution of products in a country, and in this context, transportation systems are one of the most influential factors in moving production cycles.

Obviously, the activity of a production unit does not make sense without the use of transportation cycle services.

Efficient transportation Is one of the most effective factors in the economic prosperity and development of any country.

The maritime transport industry can be introduced as one of the economic infrastructures of any country and the main tool for the development of international trade and meeting the various needs of economic operators.

Demand for maritime transport is influenced by international trade volumes. Trade with other countries to export and import goods creates demand for shipping companies to transport goods (Becker, 2020)

In this sense, the improvement of the provision of transport services is not only beneficial for the companies operating in this sector, but also increases the opportunities for export and import of goods.

And this will have an impact on the macroeconomic environment. At present, the proportion of goods transported by sea and containers is increasing.

And this also affects the macroeconomic environment. At present, the proportion of goods transported by sea and containers is increasing.

And container shipping is an important pillar of the global supply chain. The quality of shipping services plays an important role in influencing the performance of global supply chains.

There is no doubt that large areas of oil and gas fields are located offshore, and some of these resources are located along borders or in conflict zones. (Bindemann, 2018)

International law guarantees the sovereignty of states over natural resources under the seabed and under the seabed on their continental shelves and exclusive economic zones.

This power is special and unique, at least In the case of the plateau. And because the land of the country is a continuation of the land of the government. It contains the principle of sovereignty, and dares to say that it has acquired meaning.

Many resolutions of the United Nations General Assembly and provisions of the Convention on the Continental Shelf and the 1982 Convention on the Law of the Sea

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

and the judicial procedure are the crystallization of this customary principle.
If there are oil and gas fields that cross maritime borders, or if the fields are located in disputed areas; Due to the fluid nature of these materials and the geological conditions governing them
A government's reliance on sovereignty and unilateral exploitation of them contradicts the preservation of the reservoir's integrity and violates the sovereignty of another beneficiary country in the reservoir.
Therefore, law, as the guardian of discipline, should seek to provide a solution to this problem.
Countries in different parts of the world have developed methods to maintain the optimal quality of the aforementioned sources, taking into account bilateral relations.
These measures include the conclusion of territorial agreements and the distribution of the corresponding areas and in cases where negotiations were not successful in determining boundaries, a joint development agreement was concluded. (Johnston, 2021)
Joint development agreements have been accepted as a temporary solution regarding fields located in disputed areas of sovereignty in different places. Thus, this study sought to provide a model that explained the relationship between stakeholder demands, sustainability and efficiency improvement in the Chabahar maritime transport industry.

Research method

The current research uses both qualitative and quantitative methods to analyze its data, as well as a descriptive-survey (field) method. So it is mixed. This research is carried out in the field of maritime transport industry in Chabahar port.
The data required to conduct this research has been collected for the six-year period of 1395-1401, which have been extracted from organizations and companies active in the maritime transportation industry.
This study includes a wide range of public and private companies and institutions (policy makers and administrators) working in the maritime transport sector.
Located inside the country, through the researcher's personal visit to them and interviews with their CEOs and senior managers.
Here, considering that in determining the criteria for improving the performance of the maritime transport industry, as well as the concept of sustainable development, and in the continuation of the construction and design of the research conceptual model, techniques such as interviews with subject experts and specialists and distributing questionnaires among them have been used in order to collect the required data and refer to the specialized libraries and archives of the custodian organizations.
The statistical population of this research is the total number of active companies and organizations in the field of maritime transportation in the country (4093) that have been identified and determined to form the statistical population of this research.
According to Cochran's formula, at a confidence level of 15% (allowed error value 5%) and based on the number of statistical population of 4093 cases, the minimum sample size required for this research will be 351 people.

$$n = \frac{\frac{z^2 pq}{d^2}}{1 + \frac{1}{n}(\frac{z^2 pq}{d^2} - 1)}$$

The data collection method is library and field type.

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

And the tools of data collection in this research include things like interviewing technical experts and specialists, distributing questionnaires, referring to specialized libraries, document centers and archives of organizations in charge of maritime transportation in the country.
This research is carried out in the form of three steps. In the qualitative step, all dimensions, components and indicators affecting sustainable development in the extractive marine transportation industry are identified.
In the next step, in order to determine the relationships between important and related components and to explain the conceptual model of the research, the Delphi technique is used to screen the components and indicators, interviews with experts, distribution of questionnaires among them, and SPSS and Lisrel statistical software.
In the final step, analytical statistics techniques are used to test the model, and the structural equation modeling method is used to develop the final model. And for ease of statistical analysis, SPSS and Lisrel statistical software are used.

Findings

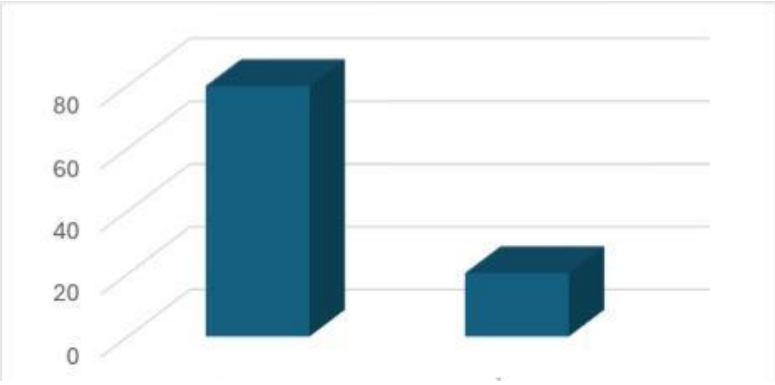
Descriptive findings

In order to better understand the nature of the society studied in the research.
And to get more familiar with research variables, before analyzing statistical data, it is necessary to describe these data.
Statistical interpretation of data is the process of identifying patterns that dominate the data and the basis for describing the relationships between the variables used in the research

. **Table 1. Distribution of the frequency related to the gender of the respondents of the research questionnaire**

Frequency percentage	Frequency	Gender
۷۹,۸	۲۸۰	Male
۲۰,۲	۷۱	Female
۱۰۰	۳۵۱	Total

1.male
2.female



International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

Chart 1. Frequency distribution related to the gender of the respondents of the research questionnaire

Table 2. Frequency distribution related to respondents' education

Frequency percentage	Frequency	Education
٥٣,٠	١٨٦	BA
٣٢,٨	١١٥	MA
١٤,٢	٥٠	DR
١٠٠	٣٥١	Total

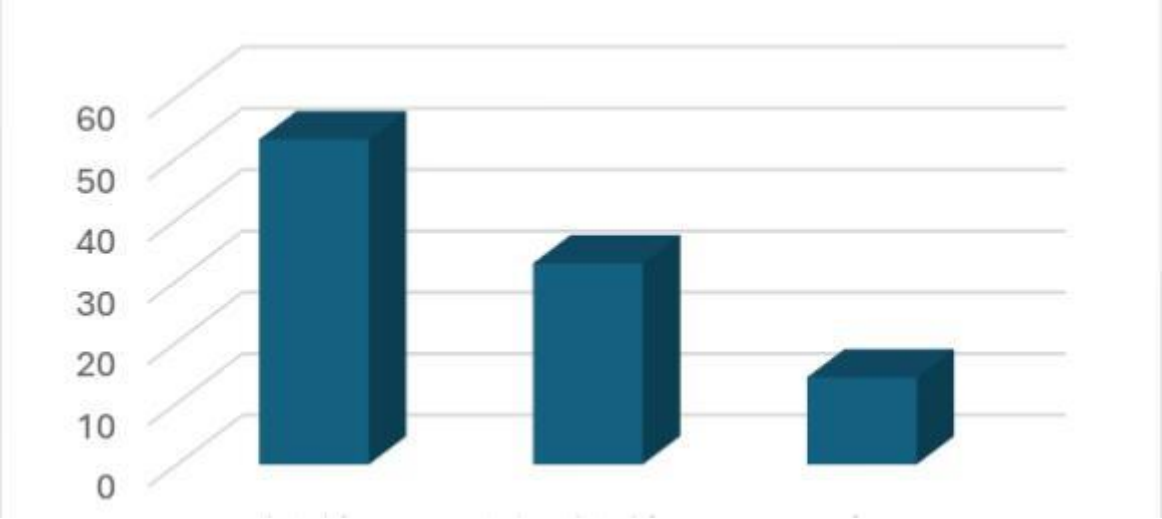


Chart 2. Frequency distribution related to respondents' education

Table 3. Work experience In the maritime transport industry

Frequency percentage	Frequency	Work experience
٤٤,٤	١٥٦	Five to ten years
٢٦,٨	٩٤	Ten to fifteen years
١٧,٧	٦٢	Sixteen to twenty years
١١,١	٣٩	Above 20 years
١٠٠	٣٥١	Total

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

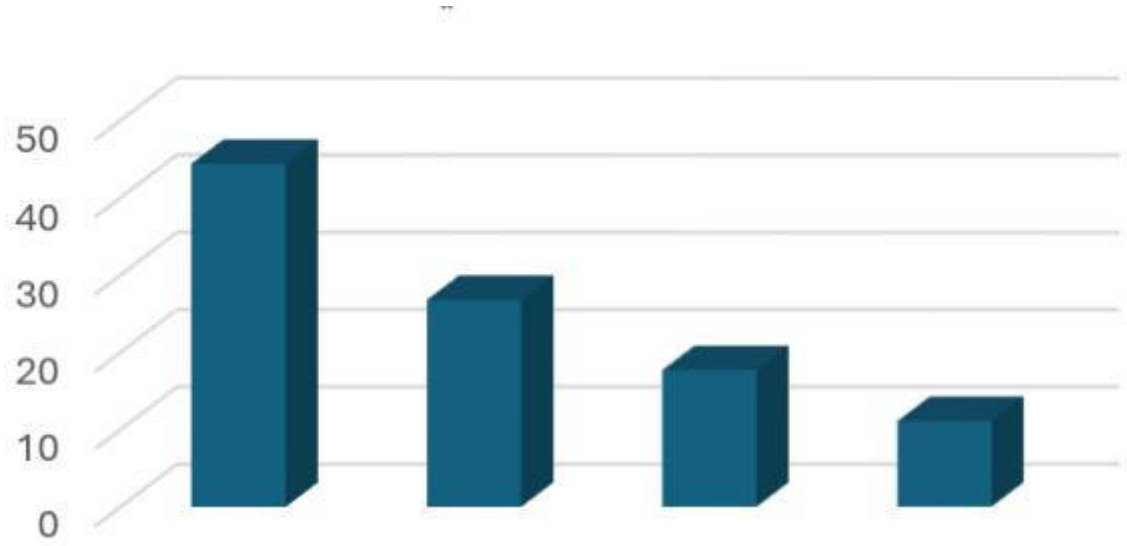


Chart 3. Work experience in the maritime transport Industry

In analyzing the demographic situation of the statistical population, the researcher put it in the questionnaire In order to obtain a general and more detailed understanding of the statistical population, i.e. the employees of the organizations and companies in charge of the maritime transportation industry.

In the first part of the demographic information, the gender of 351 respondents has been investigated.

According to the results obtained from Table 1 and Chart 1, which examined the gender distribution of the respondents. According to this table, 79.8% of the statistical sample of this research is 280 men and 20.2% of the statistical sample Is 71 women. In the second part of the demographic information, the education of the statistical sample was investigated.

The demographic information obtained among the statistical sample can be stated that according to Table 2 and Chart 2, out of the 351 sample of the research, 186 people have a bachelor's degree, which is equivalent to 53.0% of the total sample.

Also, 115 people have a master's degree, whichh is 32.8% of the total statistical sample. In addition, 50 respondents have a doctorate degree, which is 14.2% of the total number of statistical samples.

Most of the respondents have a bachelor's level of education. In the third part of the demographic information, the respondents' service record is examined.

According to the results obtained from examining the distribution of the variable frequency of work experience in the statistical sample in Table 3, it shows that; 156 members of the sample have 5 to 10 years of service, which is equivalent to 44.4% of the total sample.

٩٤members of the sample have a work experience of 10 to 15 years, which is equivalent to 26.8% of the total sample. Also, 62 people from the entire sample have a work experience of 16 to 20 years, which is equivalent to 17.7% of the entire sample. And 39 people have more than 20 years of work experience, which is equivalent to 11.1% of the total sample. Most of the respondents have 5 to 10 years of work experience.

Quantitative description of research Indicators:

Tables 4 to 6 are presented according to the research questionnaire, which was prepared using a five-point Likert scale and related to the average values, standard deviation, and variance related to the research indicators.

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

Table 4. Descriptive findings of sustainable development indicators

Variance	Standard deviation	Average (between 1-5)	Index	Component
۰/۸۰۲	۰/۸۹۶	۳/۴۱	Choose the right place	Environmental dimension
۰/۸۲۶	۰/۹۰۹	۳/۱۷	Air quality and dust reduction	
۱/۲۰۸	۱/۰۹۹	۳/۲۳	The percentage of carbon emissions and atmospheric polluting gases	
۰/۷۶۷	۰/۸۷۶	۳/۱۸	Preservation of plant and animal species	
۰/۶۹۰	۰/۸۳۱	۳/۱۴	Wildlife protection	
۰/۷۲۸	۰/۸۵۳	۳/۰۳	Increasing the collection of rains and their reuse	
۰/۷۱۶	۰/۸۴۶	۲/۸۷	Reducing the use of fossil fuel and the use of renewable resources	
۰/۷۵۶	۰/۸۷۰	۳/۰۶	Protection against soil pollution	
۰/۸۵۲	۰/۹۲۳	۳/۲۳	Avoiding the destruction of environmental resources and systems	
۰/۸۲۳	۰/۹۰۷	۳/۴۳	Evaluation of environmental benefits	
۰/۷۸۳	۰/۸۸۵	۳/۳۲	Use of ISO 9001, ISO 14001:2004 standards	
۱/۳۵۶	۱/۱۶۴	۳/۴۴	Routing based on weather conditions	
۰/۸۶۸	۰/۹۳۲	۲/۷۱	Correct selection of materials and waste management	
۰/۹۳۶	۰/۹۶۷	۲/۶۹	Environmental management systems	
۰/۹۸۲	۰/۹۹۱	۲/۳۹	Diversity and biodiversity	
۰/۸۲۹	۰/۹۱۰	۲/۸۰	Preservation of cultural heritage	Social dimension
۰/۹۷۲	۰/۹۸۶	۳/۴۳	Public access	
۰/۷۴۸	۰/۸۶۵	۲/۹۵	Health and safety	
۰/۸۷۰	۰/۹۳۲	۳/۰۳	Appropriate site development/access	
۱/۰۳۳	۱/۰۱۶	۲/۸۰	Social acceptability	
۱/۰۵۱	۱/۰۲۵	۲/۷۳	Clear conditions and Instructions	
۰/۹۳۱	۰/۹۶۵	۲/۷۵	No arguing with customers	
۰/۹۳۸	۰/۹۶۹	۲/۷۶	Achieving the desired goals of customers	
۰/۷۳۲	۰/۸۵۶	۲/۶۲	Definition of development policies to improve human comfort	
۰/۹۸۰	۰/۹۹۰	۲/۵۹	Improving the mental Image, reputation and credibility of the organization	
۰/۹۸۰	۰/۹۹۰	۲/۳۴	Implementation of strict safety programs for personnel against accidents	
۰/۶۲۲	۰/۷۸۹	۲/۸۴	Focusing on Improving the living conditions of the poor and the needy in society	
۰/۷۷۳	۰/۸۷۹	۳/۱۳	Mutual communication	
۰/۷۰۰	۰/۸۳۶	۳/۰۲	Type of raw materials/availability to them	Economic dimension
۰/۷۶۶	۰/۸۷۵	۳/۰۱	The possibility of reusing consumables	
۰/۸۸۸	۰/۹۴۲	۳/۰۳	The function of physical assets	
۰/۷۶۱	۰/۸۷۲	۲/۵۶	Achieving the goals of the plan	
۰/۸۴۵	۰/۹۱۹	۲/۶۸	Increasing initiative and innovation in projects	

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

۰/۸۰۵	۰/۸۹۷	۲/۹۴	Reduction of waste	
۰/۶۹۴	۰/۸۳۳	۲/۸۱	Promoting sustainable development by improving technology efficiency	
۰/۷۰۱	۰/۸۳۷	۲/۷۵	Development of port economic activities	
۰/۸۶۶	۰/۹۳۱	۲/۸۴	Development of marine tourism	
۰/۸۷۴	۰/۹۳۵	۲/۶۳	Reduce time	
۰/۸۵۴	۰/۹۲۴	۲/۸۱	Change in the perceptual, cognitive, tendencies, beliefs	Governance dimension
۰/۹۵۳	۰/۹۷۶	۲/۷۰	Reporting system	
۱/۱۴۸	۱/۰۷۲	۲/۷۵	Preventing unnecessary delays	

Table 5. Descriptive findings of maritime transport performance improvement indicators

Variance	Standard deviation	average (between 1-5)	Index	Components
۰/۷۵۴	۰/۸۶۸	۳/۷۶	Continuous process improvement	Initiative and innovation
۰/۶۷۱	۰/۸۱۹	۳/۷۷	Time to provide a new product	
۰/۷۴۱	۰/۸۶۱	۳/۹۳	Research and development costs	
۰/۶۳۵	۰/۷۹۷	۳/۹۶	Inventory capacity	Inventory level
۰/۷۱۳	۰/۸۴۴	۳/۸۱	The inventory amount of damages and losses	
۰/۶۷۲	۰/۸۲۰	۳/۷۹	The desired amount of the order	
۰/۶۹۶	۰/۸۳۴	۳/۹۰	Average freight rate per shipment	Competitive freight
۰/۶۳۳	۰/۷۹۵	۳/۹۱	Range of freight	
۰/۷۱۱	۰/۸۴۳	۴/۰۰	Average dimensions and weight of cargo	
۰/۸۷۳	۰/۹۳۴	۳/۵۲	The percentage of errors in the shipping process	Carrying quality
۰/۷۵۳	۰/۸۶۸	۳/۳۷	Quality of transported goods	
۰/۷۶۴	۰/۸۷۴	۳/۶۱	The quality of services provided during cargo transportation	
۰/۷۷۶	۰/۸۸۱	۳/۵۱	Flexibility in shipping schedules	Delivery on time
۰/۷۱۸	۰/۸۴۸	۳/۴۷	The number of deliveries on time	
۰/۷۵۶	۰/۸۶۹	۳/۶۰	The percentage of delay time reduction	
۰/۶۲۸	۰/۷۹۳	۳/۹۱	The number of newly entered markets	Competitiveness
۰/۶۱۴	۰/۷۸۴	۳/۹۹	Profitability growth percentage	
۰/۷۴۶	۰/۸۶۴	۳/۷۲	Sales return rate	

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

Table 6. Descriptive findings of indicators of requests received from stakeholders

Variance	Standard deviation	average (between 1-5)	Index	Components
۰/۷۷۰	۰/۸۷۷	۴/۱۴	Having strong support and logistics	Physical flows
۰/۵۸۰	۰/۷۶۱	۳/۹۸	Mutual dependence	
۰/۷۰۲	۰/۸۳۸	۳/۸۸	Organization resource planning	
۰/۷۲۵	۰/۸۵۱	۴/۱۸	Benefits of supply chain components	Information flows
۰/۷۸۸	۰/۸۸۸	۳/۸۸	Senior management support	
۰/۵۹۰	۰/۷۶۷	۳/۸۹	The behavior of chain members	
۰/۶۲۱	۰/۷۸۸	۳/۵۳	leadership	
۰/۶۴۵	۰/۸۰۳	۳/۴۸	Information transparency, information sharing	Layered complexity
۰/۷۰۷	۰/۸۴۱	۳/۳۴	Honesty and trust in risk management	
۰/۶۶۴	۰/۸۱۵	۳/۲۶	The level of technological capability	
۰/۷۹۹	۰/۸۹۴	۳/۵۱	Uncertainty of technology	
۰/۵۷۱	۰/۷۵۵	۳/۵۰	The duration of information preparation and sending	
۰/۸۲۵	۰/۹۰۹	۳/۰۸	The cost of information technology	
۰/۴۷۴	۰/۶۸۸	۳/۴۲	Durability and stability of information	
۰/۶۴۵	۰/۸۰۳	۳/۸۳	All the time of flow and transfer of goods	Layered complexity
۰/۶۵۴	۰/۸۰۸	۳/۹۷	The total cost of inventory	
۰/۶۳۷	۰/۷۹۸	۳/۸۶	The total cost of the chain	
۰/۵۶۸	۰/۷۵۳	۳/۹۷	Total cycle time	
۰/۶۱۸	۰/۷۸۶	۴/۰۴	The level of buyer-seller relationships	
۰/۶۱۸	۰/۷۸۶	۴/۰۴	The amount of members' investment in expanding the chain	Elemental complexity
۰/۵۹۸	۰/۷۷۳	۳/۵۴	Establishing the possibility of synergy	
۰/۷۵۲	۰/۸۶۷	۳/۵۴	The extent of commercial relations	
۰/۶۹۹	۰/۸۳۶	۳/۶۴	The supplier's willingness to develop cooperation	

Structural equation modeling and factor analysis:

For example, in a research, the relationship between three hidden variables A, B, and C Is investigated. The causal relationship between these variables is considered as follows.

Latent variable A Is an independent variable and has an effect on both latent variables B and C.

Two observable variables A1 and A2 have been used to measure the latent variable A.

Two observable variables B1 and B2 have been used to measure the latent variable B.

To measure the latent variable C, three visible variables C1, C2 and C3 have been used.

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

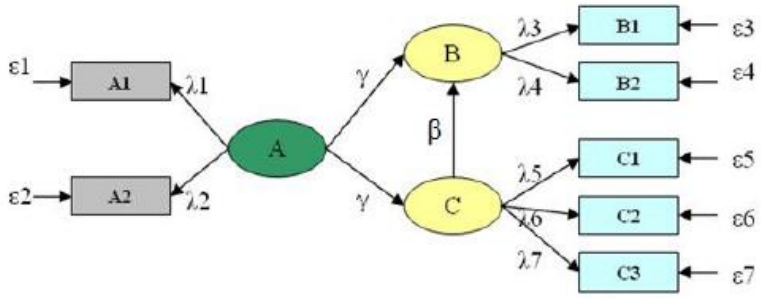


Figure 1. General structure of the structural equation model

The general model of structural equations follows the pattern of Figure 1. The rules of this pattern are:

Each ellipse in the structural equation model represents a latent variable.

Each rectangle in the structural equation model represents an observable variable.

From each hidden variable (oval) to each visible variable (rectangle), there is an arrow that is indicated by the symbol λ, λ is called factor weights or factor load. According to Klein, factor loadings greater than 0.3 indicate the significance of the relationship.

Each value of ε also represents the error in predicting the latent variables from each other. The coefficient of the causal relationship between two independent hidden variables and the dependent observable variable is indicated by γ.

The coefficient of the causal relationship between two dependent latent variables is indicated by β.

The strength of the relationship between the factor of the latent variable and the observable variable is indicated by the factor loading. Factor load Is a value between zero and one.

If the factor load is less than 0.3, the relationship Is considered weak and Is ignored.

A factor between 0.3 and 0.6 is acceptable, and if It is greater than 0.6, It is very desirable.

In factor analysis, the variables that measure a latent variable (factor) should have a high factor load with that factor and a low factor load with other factors.

To check the significance of the relationship between the variables, the t-test statistic or t-value is used.

Because significance Is checked at the error level of 0.05, so If the amount of factor loadings observed with the t-value test is calculated to be smaller than 1.96, the relationship is not significant, which will be displayed in red color in Lisrel software.

Statistical inference

In order to analyze the data of the research, various analyzes have been used. In the first stage, the normality of the data is checked using the Kolmogorov Smirnov test and the Pearson correlation coefficient between the research variables.

In the next step, the construct validity of the research variables and the Indices obtained from them are examined using the confirmatory factor analysis test.Before entering the hypothesis testing stage, it is necessary to know the normality of the data so that tests can be used based on their normality or not. In this test, if the significance level obtained from the test is greater than the error value, i.e., α=0.05, the hypothesis H1 will be confirmed, otherwise the hypothesis H0 will be confirmed.

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

Table 7. Kolmogorov-Smirnov test for research variables

level of significance	Variable
۰/۰۶۸	Sustainable development
۰/۰۹۳	Improving the performance of maritime transport
۰/۰۵۷	Requests received from the beneficiaries

Correlation coefficient between research variables

Table 8. Correlation matrix between performance improvement and components of demands received from stakeholders

۶	۵	۴	۳	۲	۱	
					۱/۰۰	Performance improvement
				۱/۰۰	*۰/۷۳۹	Physical flows
			۱/۰۰	*۰/۷۴۸	*۰/۷۶۱	Financial flows
		۱/۰۰	*۰/۶۱۷	*۰/۵۳۷	*۰/۶۵۷	Information flows
	۱/۰۰	*۰/۴۴۶	*۰/۶۶۸	*۰/۶۶۰	*۰/۸۳۸	Layered complexity
۱/۰۰	*۰/۷۶۷	*۰/۶۴۷	*۰/۶۰۳	*۰/۶۲۶	*۰/۸۶۸	Elemental complexity

P<0.05

According to the results obtained from Pearson's correlation coefficient, it can be said that there is a relationship between improving the performance and the components of the demands received from the beneficiaries, (physical flows, financial flows, information flows, layered complexity and elemental complexity) at the 95% confidence level, there is a significant relationship.

Table 9. Correlation matrix between performance improvement and sustainable development components

۵	۴	۳	۲	۱	
				۱/۰۰	Performance improvement
			۱/۰۰	*۰/۲۳۶	Environmental
		۱/۰۰	*۰/۶۴۶	*۰/۳۳۶	Social
	۱/۰۰	*۰/۷۸۱	*۰/۶۱۷	*۰/۳۳۶	Economic
۱/۰۰	*۰/۷۳۰	*۰/۷۲۹	*۰/۶۳۰	*۰/۲۷۳	Sovereignty

P<0.05

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

According to the results obtained from the Pearson correlation coefficient, it can be said that there is a significant relationship between performance improvement and sustainable development components (environmental, social, economic and governance) at the 95% confidence level.

Table 10. Correlation matrix between research variables

۳	۲	۱	
		۱/۰۰	Sustainable development
	۱/۰۰	*۰/۳۴۱	Improving the performance of maritime transport
۱/۰۰	*۰/۹۱۱	*۰/۳۵۶	Requests received from the beneficiaries

P<0.05

According to the results obtained from the Pearson correlation coefficient, it can be said that there is a significant relationship between all variables at the 95% confidence level.

Evaluation of the measurement part of the model

In evaluating the measurement part of the model, the researcher should examine the relationships between the latent variables and the manifest variables of the model.

Here, the goal Is to determine the validity and reliability of the desired measurements.

In the discussion of validity, it is a matter of whether the indicators or observable variables measure the same thing that the researcher intends.

Or something else, in contrast to the issue of trust or reliability, it deals with the issue of how accurately the indicators used measure the subject in question.

In order to analyze the internal structure of the questionnaire and discover the constituent factors of each construct or variable, the confirmatory factor analysis tool is also used.

Also, in this section, using confirmatory factor analysis, the measured equations related to each construct (latent variable) are extracted and interpreted.

Confirmatory factor analysis is conducted In order to check the validity of the questions of the research questionnaire, which has two outputs. The first output Is the standard estimate and the second output Is the significance of the coefficients.

In the first output (standard estimate) the factor load of each Index is shown, and In the second output (significance of coefficients or t values) is shown.

The factor load Indicates the contribution of each index in the formation of the variable, its value is between 0 and 10, and a value above 0.4 is acceptable.

And less than that Is removed. The closer the value of the factor load Is to one, it Indicates the high correlation of the index with the variable.

The significance of the coefficients or t-values shows the significance level of an index. If the t-statistic value is less than 1.96, the Index is removed at the confidence

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

level of 95%, and if the Index value is above 1.96, the Index is acceptable.

In other words, It can be acknowledged that research models in the significance state of t-value coefficients actually test all measurement equations (factor loadings) and structural equations (path coefficients) using t-statistics.

According to figures:

Environmental
Social
Economic
Sovereign

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

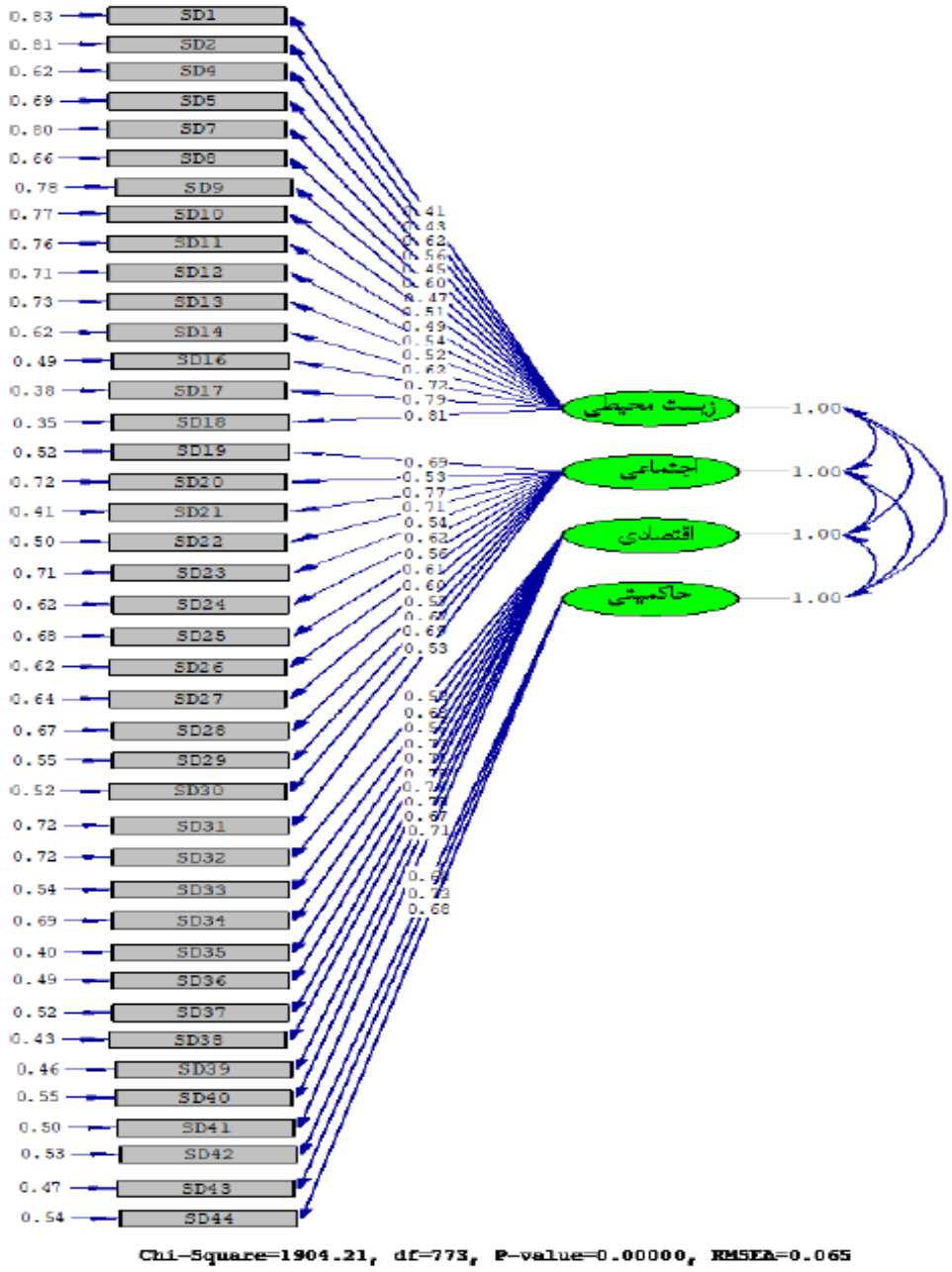


Figure 2. Confirmatory factor analysis model of sustainable development (standard estimation)

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

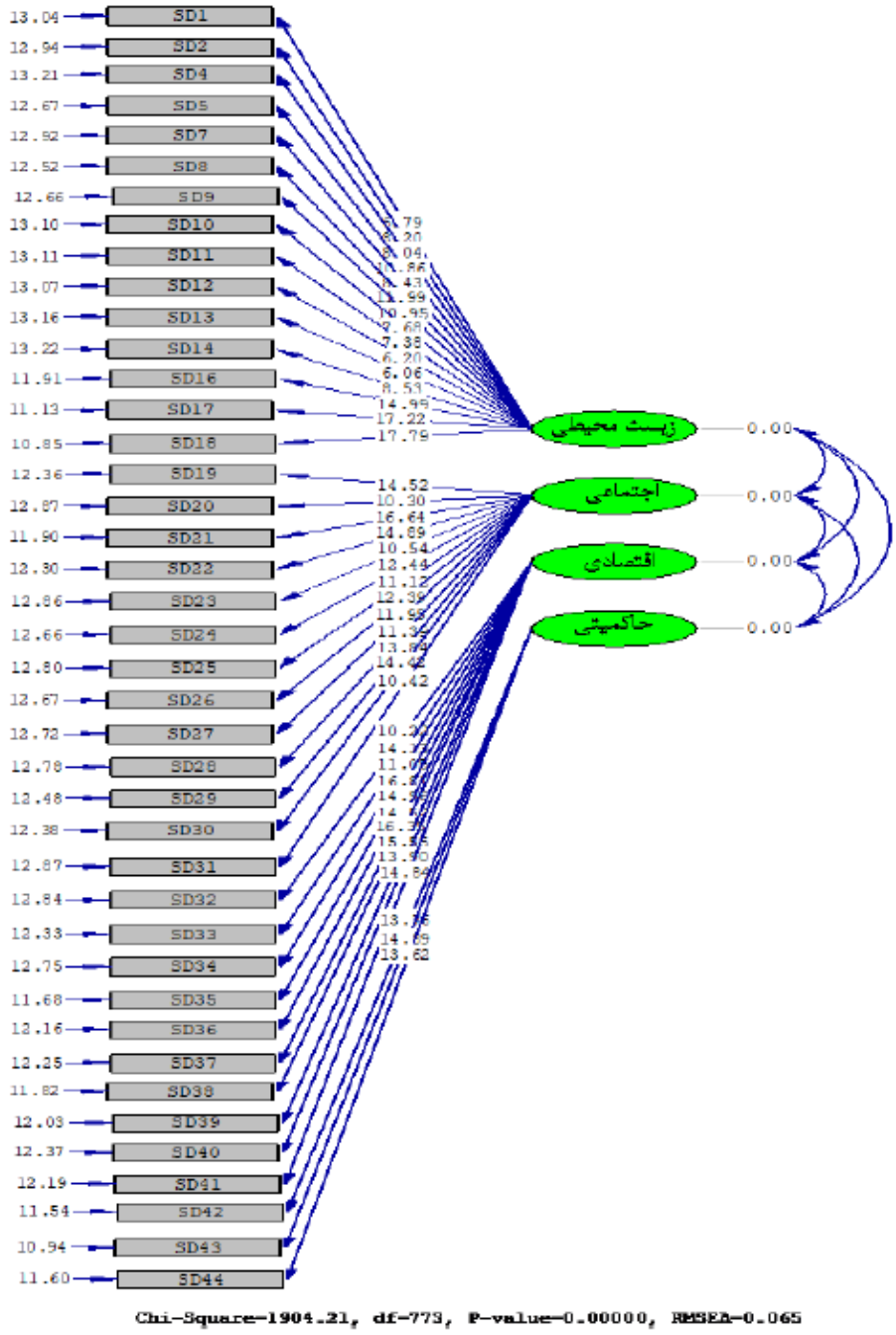


Figure 3. Confirmatory factor analysis model of sustainable development (significance of coefficients)

Initiative and innovation
Inventory level
Competitive freight
Carrying quality
Timely delivery
Competitiveness

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

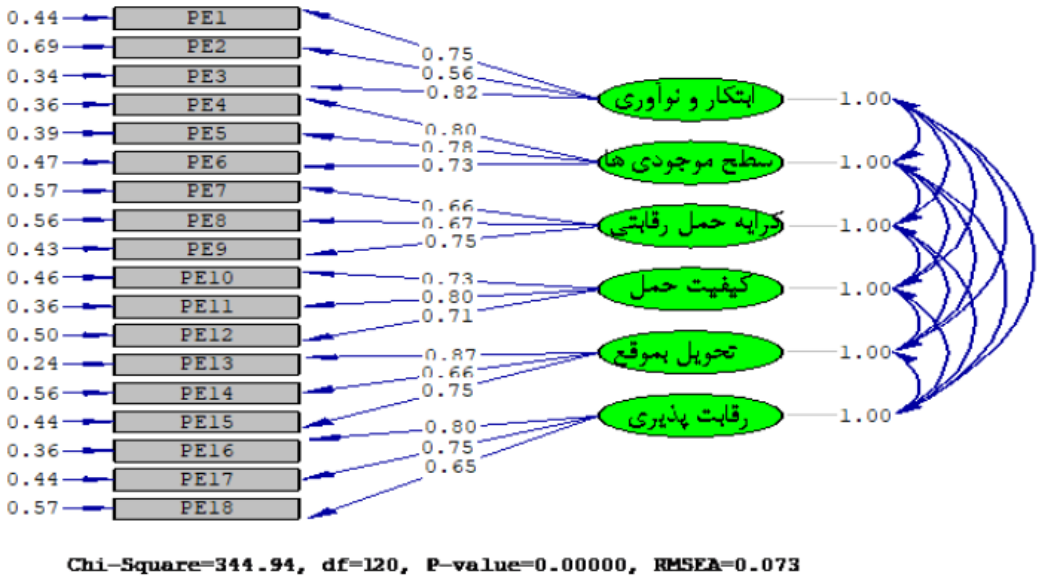


Figure 4. Confirmatory factor analysis model for improving maritime transport performance (standard estimation)

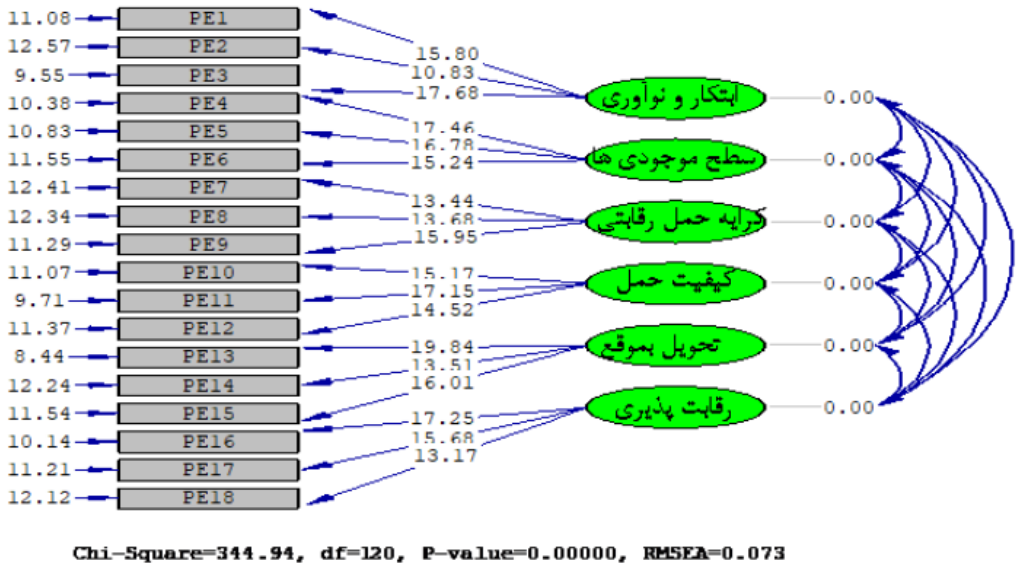


Figure 5. Confirmatory factor analysis model of maritime transport performance improvement (significance of coefficients)

The results of the factor analysis shown in figures 4 and 5 show that all the indicators related to improving the performance of maritime transport have acceptable t values of more than 1.96 and factor loadings of more than 0.4 and are considered suitable indicators for improving the performance of maritime transport.

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

Physical flows
Financial flows
Information flows
Layered complexity
Elemental complexity

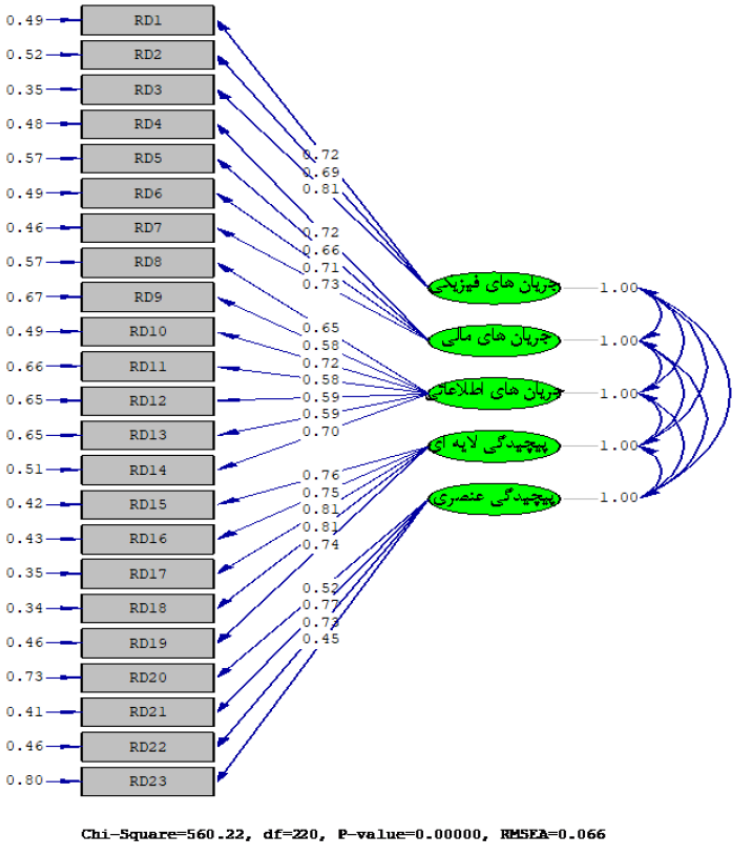


Figure 6. Confirmatory factor analysis model of requests received from beneficiaries (standard estimation)

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

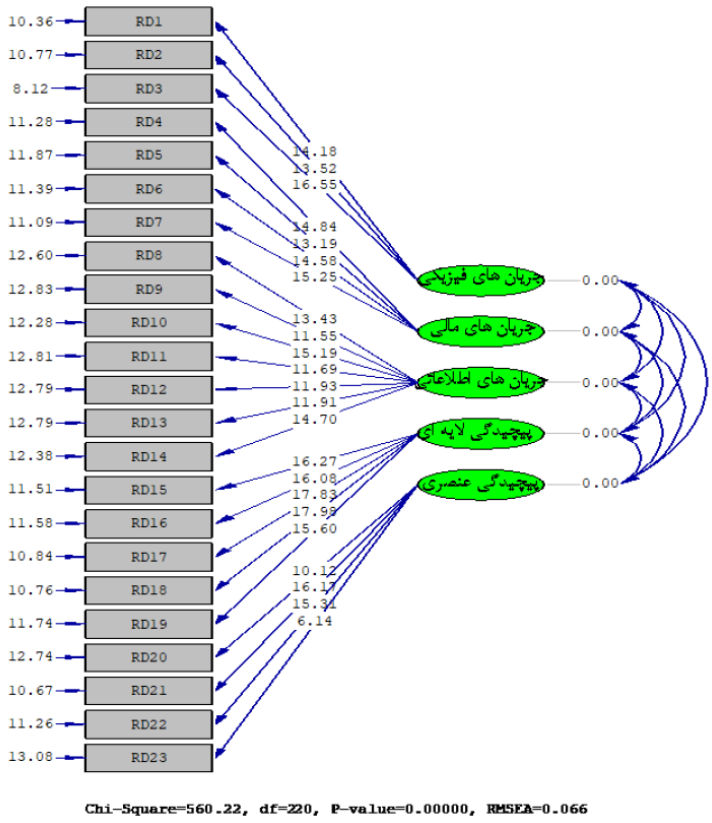


Figure 7. Confirmatory factor analysis model of requests received from beneficiaries (significance of coefficients)

The relationship between the demands of stakeholders with sustainable development and improving the performance of the maritime transport Industry has a significant effect.

Table 11. path coefficients, t-statistics and coefficient of determination

Coefficient of total R^2 determination	t statistics	Path β coefficient	Predictive variable
۰/۱۲	*۵/۶۹	۰/۳۴	

According to the path coefficient of 0.34 and also the statistic of 5.69, It can be said at the confidence level of 95% that the demands received from the beneficiaries have a positive and significant effect on the sustainable development of the maritime transport industry, so the hypothesis of the research is meaningful and confirmed. The coefficient of multiple determination (R2) is equal to 0.12.

This coefficient examines the ability to predict the dependent variable by the independent variable. Based on this, the variable of demands received from the stakeholders has been able to predict 12% of the changes in the sustainable development of the maritime transport industry.

Conclusion

In analyzing the demographic situation of the statistical population, the researcher put It in the questionnaire in order to obtain a general and more detailed understanding of the statistical population, i.e. the employees

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

of the organizations and companies in charge of the maritime transportation industry.

In the first part of the demographic information, the gender of 351 respondents was investigated. According to the results obtained from Table 1 and Chart 1, which examines the gender distribution of the respondents. According to the table, 79.8% of the statistical sample of this study are 280 males and 20.2% of the statistical sample are 71 females. In the second part of the demographic information, the education of the statistical sample was investigated.

The demographic information obtained among the statistical sample can be stated that according to Table 2 and Chart 2, out of the 351 sample of the research, 186 people have a bachelor's degree, whichh is equivalent to 53.0% of the total sample.

Also, 115 people have a master's degree, which is 32.8% of the total statistical sample. In addition, 50 respondents have a doctorate degree, which is 14.2% of the total number of statistical samples.

Most of the respondents have a bachelor's level of education. In the third part of the demographic information, the respondents' service record is examined.

According to the results obtained from the distribution of the variable frequency of work experience in the statistical sample in Table 3, it shows that 156 members of the sample have 5 to 10 years of service experience. Which is equivalent to 44.4% of the total sample.

94 members of the sample have a work experience of 10 to 15 years, which is equivalent to 26.8% of the total sample.

Also, 62 people from the total sample have a work experience of 16 to 20 years, which is equivalent to 17.7% of the total sample, and 39 people have a work experience of more than 20 years, which is equivalent to 11.1% of the total sample.

Most of the respondents have 5 to 10 years of work experience. According to the results obtained from the Pearson correlation coefficient, it can be said that there is a correlation between performance improvement and the components of demands received from stakeholders (physical flows, financial flows, information, layered complexity and elemental complexity) at the 95% confidence level, there Is a significant relationship.

According to the results obtained from the Pearson correlation coefficient, it can be said that there is a significant relationship between performance improvement and sustainable development components (environmental, social, economic and governance) at the 95% confidence level.

According to the results obtained from the Pearson correlation coefficient, it can be said that there is a significant relationship between all variables at the 95% confidence level.

The results of the factor analysis shown in figures 4 and 5 show that all the indicators related to the improvement of maritime transport performance have acceptable t values of more than 1.96 and factor loadings of more than 0.4.

And they are suitable indicators to improve the performance of sea transportation. According to the route coefficient of 0.34 and also the statistic of 5.69 it can be said that at the confidence level of 95%, the requests received from the beneficiaries have a positive and significant effect on the sustainable development of the maritime transportation industry, so the research hypothesis is meaningful and confirmed.

The value of multiple determination coefficient (R2) is equal to 0.12. This coefficient examines the ability to predict the dependent variable by the independent variable.

International Journal of Innovative Research In Humanities
Vol.4, NO.1 , P:24 - 44
Received: 22 December 2023
Accepted: 01 July 2024

Based on this, the variable of demands received from the stakeholders has been able to predict 12% of the changes in the sustainable development of the maritime transport industry.

Suggestions

The ability to generalize this model to other similar industries is due to the breadth of the concept of sustainable development and its flexibility and ability to be used at a wider level, in other industries and industrial sectors.

Industry managers should apply the model proposed in this study to other industries that have similar characteristics to the shipping industry, such as public transport systems within and outside cities, airports, railways, transit, etc.

It is suggested that the effect of the needs, wishes, desires and demands of various stakeholders active in the marine transportation chain be investigated in a wider dimension with the structural equation model method.

It is suggested to conduct another similar research in a different statistical population, for example, organizations and companies active in the field of air or ground transportation, and compare the results.

This indicates that the impact of the demands of powerful stakeholders in the naval industry must be definitely examined in relation to the influence of other potentially important sectors. For example, there is currently a problem with the United States imposing secondary sanctions for the sake of this industry.

References

رمضانی محمد ابراهیم آسوبار شهرزاد باقری ،ینگجه پریسا (۱۳۹۶) نقش حمل و نقل در توسعه پایدار شهری (مطالعه موردی شهر تهران)، هفتمین همایش سراسری محیط زیست انرژی و منابع طبیعی پایدار، ۱۳۹۶

علی رحمانیان,فرهاد طلایی,علی رضایی (۱۳۹۷) نقش سازمان‌ها و نهادهای بین المللی در تضمین تجارت دریایی پایدار, دانشگاه شیراز، دانشکده حقوق و علوم سیاسی

Bindemann, Kirsten, Production Sharing Agreement: An Economic Analysis, Oxford Institute for Energy Studies (2018).

Johnston,Daniel,International Exploration Economics,Risk and Contract Analysis, Peen well, Oklahoma,(2021).

خانعلی زاده بهمن ،کاکایی حمید دانش ،زاد علی دانش زاد (۱۳۹۹) افسانه تاثیر صنعت حمل و نقل هوایی بر توسعه و شکوفایی اقتصادی، دومین کنفرانس بین المللی نوآوری در مدیریت کسب و کار و اقتصاد

شیخ شهریار (۱۳۹۸) ترانزیت و نقش آن در اقتصاد ایران اولین همایش ملی ترانزیت و حمل ونقل بین المللی در مسیر توسعه اقتصادی، ۱۳۹۸

Becker, L., & Jaakkola, E. (2020). Customer experience: fundamental premises and implications for research. Journal of the Academy of Marketing Science, 48(4),630-648.