Paper Type: Original Article

Intersecting Realms: Analyzing Impediments to Efficient Transit Operations in Maritime Ports

Ehsan Gorjian Mehlabani[1],* iD **, Akash Chandramohanan[2]**

[1] Department of Probability and Statistics, Guangzhou University, Guangzhou, China; pro.gorjian@gmail.com.
[2] Department of Marine Engineering, National Taiwan Ocean University, Keelung 202301, Taiwan; akashchandramohan@gmail.com.

Citation:

Abstract

Transit assumes a pivotal role for nations adept at navigating the intricate currents of the global geopolitical landscape, offering a unique intersection of economic, social, political, and security considerations that set it apart from other industries. The present research endeavors to meticulously identify and analyze the practical impediments constraining optimal transit operations in Noshahr. Adopting an exploratory and survey-based research approach, the study focuses on the personnel associated with the ports and shipping administrations of Mazandaran province, with specific attention to the staff of Noshahr port and other relevant ports during the 2012-2013 temporal domain. The sample, comprising 300 individuals, is judiciously selected employing the Cochran formula designed for an unknown population. Statistical hypothesis scrutiny involves the application of factor analysis tests for component delineation, incorporating the Jem technique and T-test for the acceptance or rejection of identified components. The research reveals that various political, economic, institutional, technological, and geographical factors exert substantial influence over Neoshahr port export operations. Moreover, the empirical findings underscore the pronounced impact of these identified barriers in significantly diminishing the efficiency and efficacy of transit operations within the Noshahr port environs. This study contributes to the academic discourse surrounding transit dynamics and provides practical insights that can inform strategic interventions to enhance the operational landscape of Noshahr Port and, by extension, bolster the broader transit framework.

Keywords: Good transit, Practical barriers, Noshahr port, Export operations, Security consideration.

1 | Introduction

Transit is a custom method in which a good enters from one admissible custom and exits from another (admissible custom) to pass customs territory. It may be done through the land, air, and coastal waters. Transit

has economic, political, security, and social advantages for the source and destination countries and those situated along the way. The case that makes the economic advantages that result from good transit really important is a fair efficiency of transit in the return of investment and foreign exchange earnings and helps the trade balance in the countries. On the other hand, the Soviet Union's disintegration significantly changed the world's political and geographical environment and created many opportunities for the entire world and some neighbors such as Iran. Central Asian countries that are close to land have rich sources, so they will create new opportunities in the business world that, of course, need access to secure trade routes for these countries, which are from international waters, especially for trading with the south. The transportation expenses are so high. The strategic situation of Iran after the Soviet Union's disintegration created a role for Iran as a transit country and potentiality for the development of combined multiple transportation bridges between the Caspian Sea and the Persian Gulf, Black Sea, Mediterranean, Ballistic, and Red Sea and for all continents. Our country (Iran) is always noteworthy because of its specific geography, so it can gain a rightful place in transit by using the opportunities correctly, solving the problems, and removing the barriers that give more chances to our competitors. The important factors in the transportation market are the attractions the service provider can create. Low expenses, high speed, and better security are those attractions, and the country that can provide the above factors more clearly will gain more market share. Experiences show that Iran has neither acceptable standards in expenses nor speed. This is why this research is done to study the limitations present in transit in one of the ports because, unfortunately, we don't have a good situation, and if we continue to neglect problems and ignore the necessity of change, we will lose more interests and the competitors who don't have our potential and capability will get our place instead. Noshahr port is one of the most strategic ports in the North because of its adjacency to essential ports of the area and significant industrial-generative centers. It is the best port in Caspian to see because of the ship's access to water. Noshahr Port has multipurpose uses such as commercial, oil, and passenger usage. This port's number of transactions in 2012 was about one million and two hundred tones. Noshahr and Anzaly ports are the most critical parts of the North of Iran. So, it can have a significant role in the North-south corridor. This research aims to find out which barriers are practical in Noshahr port's transit so that we can provide a suitable solution for this problem. According to the results, we recognize that Noshahr Port couldn't achieve the anticipated goals ultimately, and based on the research done so far, different barriers are effective in the process of good transit. According to the difference in research conditions and strategic differences and Noshahr port's geography (compared to other ports), we are searching to know the transit barriers in Noshahr port. The remainder of the paper is organized as follows to address these issues. The "background and motivation" section presents the background and motivation for the research, while the "hypotheses development" section is about developing our hypotheses. The "methodology of the empirical study" section sets out the empirical study method for testing the hypotheses. "result" section details and analyses the findings. The "discussion" section provides a discussion of the results and underscores the contributions made by this research. The conclusion provides a summary answer to our research question and opens up perspectives for future study.

2 | Literature Review

The literature review on the topic "intersecting realms: analyzing impediments to efficient transit operations in maritime ports" explores the multifaceted challenges and obstacles that impact the efficiency of transit operations in maritime ports. Scholars in the field have delved into various dimensions, including logistical, regulatory, and technological aspects, to identify and understand the impediments faced by port operations. Existing research emphasizes the critical role of seamless transit operations in maritime ports for global trade and economic development. Studies often highlight issues such as congestion, inadequate infrastructure, and outdated technology as primary factors affecting efficiency. Furthermore, scholars have explored the regulatory frameworks governing port operations, seeking to comprehend how policies and compliance measures contribute to or hinder the optimization of transit processes. The literature also underscores the importance of technological innovations, such as the integration of smart systems and data analytics, in overcoming operational challenges and enhancing efficiency in maritime ports. By synthesizing insights from

diverse studies, the literature review aims to provide a comprehensive understanding of the intricate intersections between logistical, regulatory, and technological realms, shedding light on potential solutions and avenues for improvement in the transit operations of maritime ports. Nafei et al. [1] proposed an extension of the TOPSIS for multi-attribute group decision-making under a neutrosophic environment. Azimi et al. [2] proposed a novel approach for solving interval neutrosophic integer programming problems. Pourrafiee et al. [3] proposed a method for portfolio diversification by comparing entropies using fuzzy values at risk and higher-order moment. Azizi et al. [4] proposed a method for forecasting Bitcoin volatility using an artificial differential equation neural network. Ruano et al. [5] proposed an investigation into enhancing sustainability in Belize's ecotourism sector, using the Fuzzy Delphi and Fuzzy Decision-Making Trial and Evaluation Laboratory (DEMATEL) methods to analyze key indicators. Chen et al. [6] proposed evaluating the sustainable operating performance of electronics industry groups, explicitly focusing on Taiwanese firms operating in Mainland China.

3 | Research Method

According to research kinds, this research is descriptive (using library studies and questionnaires; it is not in the form of a cause-effect relationship or comparison with another society and just describes the phenomenon's behavior) and is fundamental research.

- – *Research question.*
- – *First question: what are the influential variables in transit?*
- – *Second question: which are the critical components of transit?*
- – *Third question: how is the structural model of the discovered components?*
- – *Fourth question: what is the weight of each obtained factor?*
- – *Population and sample.*

The statistical population of this research includes the staff and managers of Noshahr Port and transit activists and transportation companies. The sampling method is simply accidental. In this research, explanatory methods and structural transactions and ranking are used, so for doing this research, we need a large sample size (at least 290 people). Given that the number of research variables in the first questionnaire was 58, the range 5q<n< ba was used, and for answering the research assumptions, sampling was done among the statistical population, and the Kookran formula calculated the research sample size. Since the statistical population is unlimited, questionnaires were distributed among samples, and the standard deviation rate was calculated and placed in the Kookran formula to find the research sample rate.

Table 1. Descriptive statistics.

	Preliminary	Minimum	Maximum	Average	Standard Elevation
Data average	20	2.12	4.24	3.53	0.44185

By considering the above values, we will put the obtained rate of standard deviation in the following formula so that the research sample rate can be gained:

$$N = \frac{(\frac{zQ2}{2})(Q^2)}{\varepsilon^2}.$$

- – *Z= the value of the normal standard probability.*
- – *Q= standard deviation.*
- – *ε= the accuracy of estimate (the maximum acceptable error).*
- – *A= error level.*

By placing the obtained values in this formula, 300 people were chosen as a research sample.

Test methods for research hypotheses

This research used two methods (descriptive and inferential statistics) to analyze the data. The descriptive method was used for dividing triable groups based on different characteristics and describing the characteristics of the statistical population of central relations and indices (average, mean) and dispersion indices (variation range, standard deviation, and standardized deviate), and the inferential statistic was used for testing the assumptions and factor analysis method was used for components grouping and also using Jem technique and T-test for confirming or rejecting the components. Level and Spass software were used as computer software for modeling and analyzing the final results.

4 | Evaluation

The explanatory factor analysis method is used for identifying and discovering dimensions of the research's primary structures, finding influential factors, determining the variance shared by these factors, and their priority in terms of influential factors in transit.

The steps and results are as follows:

Reliability or the stability of the questionnaire

Table 2. The stability of the whole questionnaire.

The Number of Questions	Cronbach's Alpha
58	86.85

Stability is an essential characteristic of measurement tools designed for measuring variables or hidden structures. The value of this index is swung between zero and one. The desirable condition is when this value is higher than 7.0 and near to one. As we see in the above table, the value of Cronbach's alpha for the questionnaire is the desirable value 86.85 confirmatory factor analysis of research variables.

Table 3. KMO test and Bartelett's test for questionair's questions.

0.785		
15.117	x^2	Bartelett's test
57	Degree of freedom	
0.000	Sig.	

According to *Table 3*, the index value for KMO is 0.785 (more than 0.6), so the number of samples (number of replies) for factor analysis is enough. Also, the Sig. value in Bartlett's test is less than 0.05, which shows that factor analysis is suitable for identifying the structure of the factor model, and the assumption of the known-correlation matrix is rejected.

Table 4. Explained variance.

| Cases	Special Primary Values			The Total Extraction of Squers			The Total Extraction of Squers After Rotation		
	Total	Variance Percentage	Total Percentage	Total	Variance Percentage	Total Percentage	Total	Variance Percentage	Total Percentage
1	10.932	18.849	18.849	10.932	18.849	18.849	7.285	12.560	12.560
2	7.154	12.334	31.183	7.154	12.334	31.183	7.283	12.557	25.117
3	5.989	10.326	41.509	5.989	10.326	41.509	6.227	10.736	35.853
4	4.265	7.353	48.862	4.265	7.353	48.862	5.836	10.062	45.915
5	3.950	6.810	55.672	3.950	6.810	55.672	4.777	8.237	54.151
6	3.649	6.291	61.962	3.649	6.291	61.962	4.530	7.811	61.962

Scree Plot
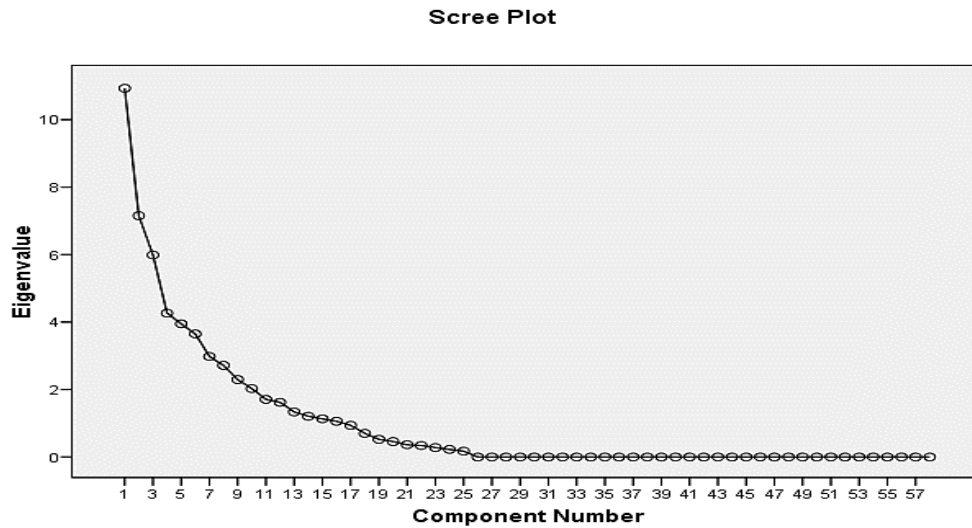
Fig. 1. Scree figure.

The main components method has been used in exploratory factor analysis for extracting factors and for factor rotation, the varimax method. With Hiser, normalization has been used. The criteria for deciding keeping or remove the questionnaire questions in factor analysis is their extractive shared values. Thus, if the extractive shared value of each question is lower than (5.0), we will put that question aside. Also, the grouping of the questions is the eigenvalues, which are more than (1), and the factor scare, which is more than (4.0). the final results of the exploratory analysis test are shown in the following tables. According to the table, six factors with eigenvalues more than one are extracted, and all of the questions related to this variable are placed in these six factors. Also, based on the factor loads of questions, each question has the maximum factor loads in the same factor, which was predetermined. Therefore, questions have enough expository.

The explanation of the analysis results

After determining the factors related together experimentally, we should try to achieve the deduction of conceptual shares experimentally. We should try to calculate conceptual shares by experimental shares of the variables loaded on a distinct factor. We named the factors according to which question is higher and by consulting with the supervisor.

Table 5. Essential factors.

Component	Component Name	Variable Name	Weight Factor
1		Proper training of operation staffs	0.531
		Convenient mechanism for the acceptance of insurance guarantees for the stop right	0.669
		Human specialists' forces and experts on transit	0.719
		Suitable competitive environment for companies	0.470
		Non-interference of custom stoffs in each other's affairs	0.696
		Improving the administrative process of transit operations	0.531
	Organizational factors	Staffs and personnel's commitment	0.669
		Lack of negligence of some workers	0.716
		Appropriate organizational structure in export performance	0.470
		Flexibility of organization to respond to changes	0.531
		Electrical bill system	0.669
		Functional supervision in transit	0.719
		Tax credit	0.470

Table 5. Continued.

Component	Component Name	Variable Name	Weight Factor
2		Having specific plans and programs locally	0.696
		Political freedom in the region	0.531
		A national transit strategy in the country	0.696
		The influence of political hostility in illegal opening of containers	0.531
		Iran shipping sanctions by American treasury	0.669
		Appropriate bilatool or multilateral transit agreements	0.716
		Considering the conditions of sanctions on devilment programs	0.803
		The inclusion of programs related to martitime transportation in program 5	0.552
		Adequate welfare facilities	0.621
		Appropriate strategy in transit	0.674
		Consultations to allow the loading in other countries ports	0.597
	Political factors	Standards compliance in Iran and neighboring countries	0.803
		The establishment of the relevant institutions in transit at customs entry	0.552
		The presence of the appropriate Iranian ships in goods transportation	0.621
		appropriate national highways in north and south axis	0.416
		Non- exhaustion of air fleet of the country and airport weekness	0.674
		Park and stopover permitted beam along the transit ways	0.597
		Adequate welfare facilities	0.803
		Non-exhaustion of the country's transport fleet	0.830
		Marine transportation fare reduction	0.564
		Low cost of ship fuel	0.849
		The presence of the proper tariffs in transit	0.781
		Low price of custom duties	
4		Government support in infrastructure investment section	0.453
	Economical factor	Increasing the budget of ports and shipping organization	0.849
		Investment in transit	0.781
5		The correct implementation of rules	0.453
		The correct implementation of rules	0.849
		Trancparency roles for transit	0.830
	Legal factors	The law enforcement officers' awareness	0.603
		The absence of regulatory barriers in the process of importing goods	0.830
		Coordination between the police and customs	0.603
6		The support of senior management	0.830
		The stability and responsibility for the proper management positions	-0.823
	Management factors	Risk taking by management	0.661
		Senior management expertise	-0.823
		Senior management commitment	0.661

Research assumptions

   I.   Organizational barriers meaningfully weaken the goods transit process in Noshahr port.

 II. Political barriers meaningfully weaken the goods transit process in Noshar port.

III.   Infrastructure barriers meaningfully weaken the goods transit process in Noshahr port.

IV.   Economical barriers meaningfully weakened the goods transit process in Noshahr port.

V.   Legal barriers meaningfully weakened the goods transit process in Noshahr port.

VI.   Management barriers meaningfully weakened the goods transit process in Noshahr port.

Checking the normality of the distribution of the variable

Before testing the relationships between variables, it is necessary to check the normality of variables. One of the methods of discussing the claims of the normality of variable distribution is to use Kolmogorov and Smirnov test. The results of this research are provided in *Table 6*.

Table 6. Normal distribution of variables.

Component	Kolmogrov	Meaningful	Cronbechs Alpha
Organization factor	2.293	0.000	889
Political factors	1.415	0.036	892
Infrastructure factor	1.544	0.017	881
Economical factor	2.324	0.000	852
Legal factors	2.875	0.000	828
Management factors	2.818	0.000	869

The result of this show that the mean level of the most research variables is lower than 0.05 and also according to the central limit theorem, the SPSS software recognizes that the results of this questionnaire are normal so that the null hypothesis (i.e. the normality of variables) is confirmed.

Goodness tests of filling the model by fit indices

In the inferential analysis, we should test the validity of the structure by confirmatory factor analysis test. Fitness test in confirmatory analysis and path, RMSEA index or the root estimate of approximation error variance is lower than 8%, x^2/df index is lower than three and GFH, CFL, IFI, NNFI IS higher than 90% if the value (T-value) of meaningful coefficients of each variable is higher than 1.96 and lower than -1.96, so the model has a good fitting or on the other hand it has a reasonable approximation of the society. Because, the software output in this section is given unchanged, so that after setting the measurement model in order to assess the research conceptual model and also making sure of the existence or absence of the causal relationship between research variables and checking the data fit which are observed with research conceptual model, research assumptions, are then tested by structural equation modal. The results of assumption tests are shown in the *Figs. 2* and *3*.
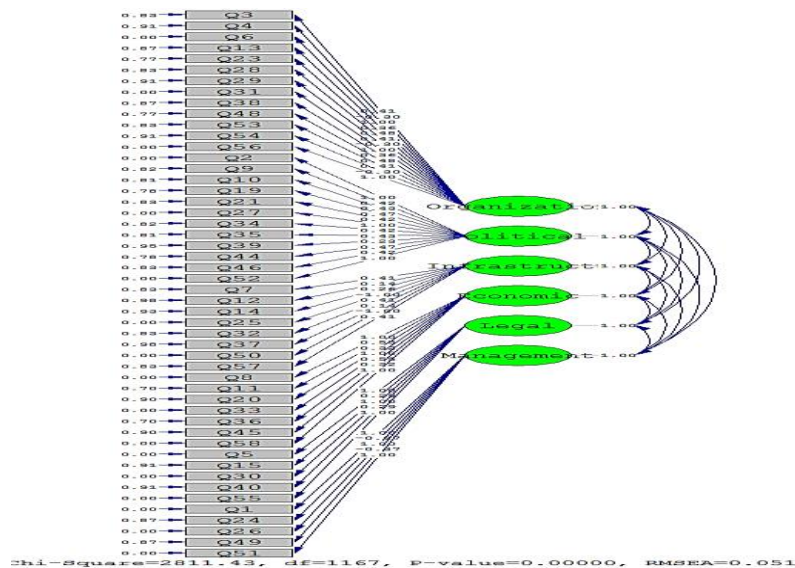
Fig. 2. The general model measurement and hypothesis results in standard condition.

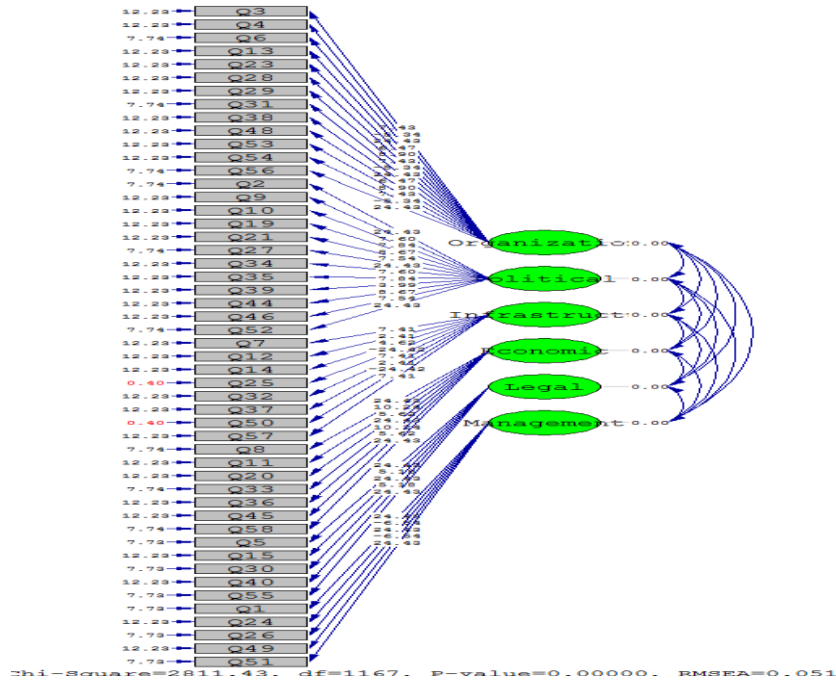Chi-Square=2811.43, df=1167, P-value=0.00000, RMSEA=0.051

Fig. 3. The general model measurement and hypothesis results in meaningful condition.

As we prove in the foregone section, since our distribution is recognized as normal (the result of the Kolmogorov test), the correlation of the variables is tested by LISREL software. For checking the causal relationship between dependent and independent variables and confirming the whole model, the path analysis method is used. In this research, path analysis is done by LISREL 8.5 software. By considering table6 which shows the fit indices of the model, the value of the whole fit indices shows the acceptable and suitable condition of the model and data and has the acceptable fitting. In this regard, for assessing the designed model, LISREL software is used, so that x^2 indices to the degree of freedom, Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Root Mean Square Residual (RMR), Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), Incremental Fitness (fit) Index (IFI), Comparative Fitness (fit) Index (CFL) and (the most important index) the root _mean _square error of approximation (RMSEA) are used. The ratio of x_{i2} square to the degree of freedom is more related to sample size and the large sample increases x_{i2} more than what could be attributed to the wrong model. It is ideal that the ratio of x_{i2} to the degree of freedom would be 3. According to the value which is reported in table 7, we can understand that the results of this section are valid and statistically analyzable because the ratio of x_{i2} to the degree of freedom for this model is 04.2. AGFI and GFI indices which are suggested by Jarzkag and Saurboum (1989) show the measure of the relative amount of variance and co-variance which are demonstrated by the model. This criterion can vary between zero and one, and as it closes to number one, the goodness of fit Inder with observed data will be more incredible. AGFI and GFI reported values for this model are higher than 0.9, which proves the results of the x_{i2} test, as the RMR (i.e., the difference between the elements of the observed matrix in the sample group and the elements of the estimated matrix, assuming the model is correct) for the given model is closer to zero, that model has a better fitting. The value of RMR in this research (021.0) shows the suitable administration of co-variances. For checking that one model, especially in comparison with other possible models, well-acted in terms of demonstrating a group of observed data, NFI, NNFI, IFI, CFI are used and from Brown and Koudak points of view, the values higher than 9.0 for this inclines shows the most suitable fitting of the designed model in compare with other possible models.

Table 7. The values of the model fit indices and fit results.

Fit Index	Desired Value	Pattem Value
χ²/df	00/3>	2.04
Goodness of Fit Index (GFI)	90/0<	99/0
Adjusted Goodness of Fit Index (AGFI)	90/0<	97/0
Root Mean square Residual (RMR)	05/0>	021/0
Normed Fit Index (NFI)	90/0<	99/0
Non-Normed Fit Index (NNFI)	90/0<	96/0
Incremental Fit Index (IFI)	90/0<	95/0
Comparative Fit Index (CFI)	90/0<	97/0
Root Mean Square Error of Approximation (RMSEA)	08/0>	039/0

Finally, for checking the fit combination status and economy of the related model, the root mean square error of approximation is used, which is very powerful: the value of this index for good models is lower than 08.0 In a model in which this index is 10.0 or higher, (fit) fitting is weak [7]. The value of this index in this model is 039.0 which for the designed model in this research shows the suitable fitting of the gathered data and their great fit(fitness).

Research hypothesis test

First hypothesis: organizational barriers meaningfully weaken the goods transit process in Noshahr port.

Table 8. T-test, one sample for the first hypothesis.

Test Criteria=3						
	t	Meaning ful level	Degree freedom	Average difference	Confidence interval difference 95%	
					Down	Top
Political factor	-4.203	299	0.000	-0.15129	-0.2221	-0.0804

Table 9. Descriptive statistics of policy statements.

One-Sample Statistics					
	N	Mean	Std.Deziation	Minimum	Maximum
Fifth factor	300	3.0487	0.62343	1.00	5.00

Since the meaningful level is lower than the error value of 0.05, the null hypothesis will be rejected, and the H1 hypothesis will be confirmed. According to the test assumptions, the null hypothesis rejection region is determined as $|t|>t(299+α/2)$. Therefore, the null hypothesis is rejected if T-students of different criteria are placed in this region. Student value with 299 degrees of freedom and .025 meaningful level equals 2.807. As you see in the table, if the student's t-test policy values are -4.203 and the meaningful level is lower than 5 percent, and also if the student's t-test policy value is higher than 22.807, the null hypothesis will be rejected, and the H_1 hypothesis will be confirmed.

Second hypothesis: political barriers meaningfully weaken the goods transit process in Neoshahr port.

Table 10. T-test, one sample for the second hypothesis.

Test Criteria=3						
	t	Meaning ful level	Degree freedom	Average difference	Confidence interval difference 95%	
					Down	Top
Political factor	11.477	299	0.000	0.46250	0.3832	0.5418

Table 11. Descriptive statistics of policy statements.

One-Sample Statistics					
	N	Mean	Std.Deziation	Minimum	Maximum
Fifth factor	300	3.2625	69795	1.00	5.00

Since the meaningful level is lower than the error value of 0.05, the null hypothesis will be rejected, and the H1 hypothesis will be confirmed. The null hypothesis rejection region is determined as $|t|>t(299+\alpha/2)$ according to test assumptions. Therefore, the null hypothesis is rejected if a T-student of different criteria is placed in this region. The t-student value with 299 degrees of freedom and 0.025 meaningful level equals 2.807, as shown in the table. If the student's t-test policy values exceed 2.807, the null hypothesis will be rejected, and the h1 hypothesis will be confirmed.

Third hypothesis: infrastructure barriers meaningfully weaken the goods transit process in Neoshahr port.

Table 12. T-test, one sample for the fifth hypothesis.

Test Criteria=3						
	t	Meaning ful level	Degree freedom	Average difference	Confidence interval difference 95%	
					Down	Top
Political factor	17.359	0.000	299	0.61481	0.5451	0.6845

Table 13. Descriptive satisfied.

One-Sample Statistics					
	N	Mean	Std.Deziation	Minimum	Maximum
Fifth factor	300	3.6148	0.61347	1.00	5.00

Since the meaningful level is lower than the error value of 0.05, the null hypothesis will be rejected, and the H1 hypothesis will be confirmed. According to the test assumptions, the null hypothesis rejection region is determined as $|t|>t(299+\alpha/2)$. Therefore, the null hypothesis is rejected if T-students of different criteria are placed in this region. T-student value (student's T-test) with 299 degrees of freedom and 0.025 meaningful level equals 2.807. As you see in the table, if the student's T-test policy value is 17.359 and the meaningful level is lower than 5 percent and also if the student's T-test policy value is higher than 2.087, the null hypothesis will be rejected, and the H1 hypothesis will be confirmed. Four hypothesis: economic barriers meaningfully weaken the goods transit process in Noshahr port.

Table 14. T-test, one sample for the fifth hypothesis.

Test Criteria=3						
	t	Meaning ful level	Degree freedom	Average difference	Confidence interval difference 95%	
					Down	Top
Political factor	14.440	0.000	299	0.67857	0.5861	0.7710

Since the meaningful level is lower than the error value of 0.05, the null hypothesis will be rejected, and the H1 hypothesis will be confirmed. According to the test assumptions, the null hypothesis rejection region is determined as $|t|>t(299+\alpha/2)$. Therefore, the null hypothesis is rejected if a T-student of different criteria is placed in this region. T-student value (student's T-test) with 299 degrees of freedom and 0.025 meaningful level equals 2.807. As you see in the table, if the student's T-test policy value is 14.440 and the meaningful level is lower than 5 percent and also if the student's T-Test policy value is higher than 2.087, the null hypothesis will be rejected, and the H1 hypothesis will be confirmed.

Variables ranking by Friedman test

The Friedman test reviews and ranks the importance of transit's key components that influence export performance. The results are shown in the following table.

Table 15. Friedman test table.

Chi-square	230.841
Degree of Freedom	5
Meaningful	0.000

Table 16. The result of the ranking analysis of the Friedman test.

Organizational factor	2.12	6
Political factor	3.36	5
Infrastructure factor	3.73	4
Economical factor	3.82	2
Legal factor	4.24	1
Management factor	3.73	3

As the results of the Friedman test show, among the transit components that are effective in export performance, the components of legal factor and organizational factor have the maximum and minimum importance, respectively.

5 | Conclusion

Iran's Transit Path is one of the most critical paths in its geographical region, but unfortunately, Iran's path often isn't selected due to political tensions, ill-advertisement against Iran, the incorrect image of our country in most tradespeople and transportation companies, lookouts in foreign countries, infrastructure and facility problems, custom and tariff barriers and organizational problems.

The main transit problems in Iran mostly include economic, political, and organizational problems, technological problems, and management barriers and problems. Now, this question appears: how much do these factors affect transit problems? Simplifying the transit process and solving the problems will motivate tradespeople to transport goods from Iran's transit path. To solve Iran's transit problems, the first step is to identify and check the problems accurately. This research is done to identify the problems in a case in Neoshahr port and from the transportation company's customs expert's and transit activists' points of view. According to results from the research hypothesis in Neoshahr port, this research deals with economic, political, management, organizational, infrastructure, and legal barriers, and all of these limitations are important in its process deduction. These findings are consistent with the research of Robins Rekaperu and Alsvier, Leted, Sachin and Adbrub Khan, Abrja and others, Mehdi Mohseni and Asghar Bazdar. We suggest decreasing and simplifying transit administrative steps and mechanizing the recording steps. By providing suitable services such as purlieus, proper parking, suitable restaurants, and telephones, we can motivate goods owners and transit drivers to pass Iran's path. According to the importance of transit in the economic consistency of Iran, we suggest that the government invest in transit infrastructures and use experienced and skilled managers without applying political and factional tastes in their selection.

Acknowledgments

Author Contributaion

Conceptualisation, E. G. Mehlabani., and A. Chandramohanan.; Data curation, E. G. Mehlabani., and A. Chandramohanan.; Formal analysis, E. G. Mehlabani., and A. Chandramohanan.; Investigation, E. G.

Mehlabani., and A. Chandramohanan.; Methodology, E. G. Mehlabani., and A. Chandramohanan.; Project administration, E. G. Mehlabani.; Resources, A. Chandramohanan.; Visualisation, E. G. Mehlabani., and A. Chandramohanan.; Writing—original draft. E. G. Mehlabani., and A. Chandramohanan.; Writing—review and editing, E. G. Mehlabani., and A. Chandramohanan. All authors have read and agreed to the published version of the manuscript.

Funding

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

It is stated that none of the researchers involved had any financial or personal relationships that could inappropriately influence or bias the content of this paper.

References

[1] Nafei, A., Gu, Y., & Yuan, W. (2021). An extension of the TOPSIS for multi-attribute group decision making under neutrosophic environment. *Miskolc mathematical notes*, *22*(1), 393–405. http://mat76.mat.uni-miskolc.hu/mnotes/download_article/3332.pdf

[2] Azimi, S. M., Chuna, H., Chena, Z., & Nafei, A. H. (2021). A new approach for solving interval neutrosophic integer programming problems. *Fuzzy optimization and modeling journal*, *2*(2), 1–11.

[3] Pourrafiee, M., Nafei, A. H., Banihashemi, S., & Pourmohammad Azizi, S. (2020). Comparing entropies in portfolio diversification with fuzzy value at risk and higher-order moment. *Fuzzy information and engineering*, *12*(1), 123–138. DOI:10.1080/16168658.2020.1811481

[4] Azizi, S. P., Huang, C. Y., Chen, T. A., Chen, S. C., & Nafei, A. (2023). Bitcoin volatility forecasting: an artificial differential equation neural network. *AIMS mathematics*, *8*(6), 13907–13922. DOI:10.3934/math.2023712

[5] Ruano, M., Huang, C. Y., Nguyen, P. H., Nguyen, L. A. T., Le, H. Q., & Tran, L. C. (2023). Enhancing sustainability in Belize's ecotourism sector: a fuzzy delphi and fuzzy DEMATEL investigation of key indicators. *Mathematics*, *11*(13), 2816. DOI:10.3390/math11132816

[6] Chen, S. C., Lee, D. S., & Huang, C. Y. (2021). Evaluating the sustainable operating performance of electronics industry groups: Taiwanese firms in mainland China. *Sustainability (Switzerland)*, *13*(21), 12030. DOI:10.3390/su132112030

[7] Hooman, H. A. (2014). *Structural equation modeling using LISREL software*. SAMT Publication. (**In Persian**). https://www.gisoom.com/book/