Investigating the impact of employees' personality on the dimensions of "organizational communication, employee vitality, job attractiveness and human resources development" in the model of job attachment in the Iranian Ports and Maritime Organization

Tayebeh Abasianfar[a], Zahra Boroumand[a,*], Ali Rezaeian[b], Dariush Gholamzadeh[a]

[a]Department of Public Administration, Central Tehran Branch, Islamic Azad University, Tehran, Iran
[b]Department of Public Management, Central Tehran Branch, Islamic Azad University, Tehran, Iran

(Communicated by Rahman Marefat)

Abstract

What has been followed in this research is to investigate the impact of employees' personalities on the dimensions of "organizational communication, employee vitality, job attractiveness and human resources development" in the pattern of job attachment in Iran's Ports and Maritime Organization. The research method in this research is a mixed-exploratory research method. In this research, first, the theme analysis method and then in the quantitative part, exploratory and confirmatory factor analysis and structural equations were used. Finally, a theoretical model was used. Research is presented. In the method of thematic analysis, 15 interviews were conducted with the experts of the Iranian Ports and Maritime Organization, and according to the coding of the interviews and the determination of the primary and secondary codes, the attachment model of the employees was extracted and then by factor analysis and with the help of software PLS22 was validated and finalized. In the quantitative part, the use of questionnaires, and questionnaires were collected and analyzed with the statistical population of 450 employees of that organization, including experts and organizational managers and a sample number of 205. As a result, this model was presented with 14 dimensions and 43 components. The dimensions of the model were: the roles of managers, meritocracy, job attractiveness, strategies, respect for employees, development of human resources, structure and organization, organizational communication, positive organizational image, learning organization, participation system, organizational knowledge of people, compensation system Service and vitality of employees. According to the output of the Max QDI software, among these dimensions, meritocracy and human resources development by 100% and organizational knowledge of people by 18.2% occupy the highest and lowest percentages of the coding space of the interviews, respectively. And based on the output of Smart PLS software, the participation system has the highest factor load (0.807) and the learning organization has the lowest factor load (0.463). Based on factor analysis, five personality factors affect the dimensions of organizational communication, human resource development, vitality and job attractiveness in the employee attachment model.

*Corresponding author
Email addresses: Tayebe.abasianfar@gmail.com (Tayebeh Abasianfar), z.boroumand@iauctb.ac.ir (Zahra Boroumand), a-rezaeian@sbu.ac.ir (Ali Rezaeian), Dar.gholamzade@iauctb.ac.ir (Dariush Gholamzadeh)

1 Introduction

In the new era, which is the world of organizational transformation and competition, most managers are looking for employees who can work beyond the official duties specified in their job description. They want employees who go beyond expectations and engage in behaviors that are not part of their official job duties [21].

Based on the research conducted in the field of organizational behavior, employee attachment makes a person have a strong sense of loyalty and obedience towards the organization and tends to organizational participation and acceptance of the organization's goals and fundamental values among its members. The organization should be strengthened [2].

Researches show that in occupational and organizational attachment, people use all their physical, cognitive and emotional dimensions in playing their roles, and lack of belonging means separating themselves from their roles [17].

From the point that attachment to concepts such as positive, satisfactory and work-related states of mind is characterized by three indicators of vitality, devotion 2 and fascination 3. "Lack of vitality" due to the low level of energy and mental resilience during work, "not being dedicated", not being involved with the work and not experiencing a sense of meaning, enthusiasm and challenge and finally "not being attracted" to the lack of complete concentration and lack of It is related to the occurrence of cheerful behavior at work, whereby time passes slowly for a person and causes him to escape from work [18].

On the other hand, nowadays managers don't have much time to control the employees, and in order to achieve the goals, they should spend most of their time and energy to identify the external environment of the organization and leave other normal tasks to the employees. In this regard, the absence of motivated, conscientious and committed employees in the organization as a valuable asset has faced managers with a great challenge [11].

Scientific findings show that organizational attachment has a significant impact on the organization's performance results, and at the same time, the low level of organizational attachment of employees in organizations has caused a lot of costs in the form of "lost productivity" for organizations.

Surveys show the unfavorable situation of this important attitude of organizational behavior, below are significant statistics regarding employee attachment:

87% of employees do not belong to the organization.

89% of employers think that people leave work for more money, while 12% of employees actually leave work for more money.

75% of people who leave work, do not leave their job but leave their boss.

90% of leaders think that the existence of an organizational engagement strategy affects the success of their business, while only 25% of them actually have a strategy.

Only 40% of the workforce has enough information about the goals and strategies of their organization.

The income of companies with employees with high organizational attachment is two and a half times more than companies whose employees have low organizational attachment.

The above results have been obtained from the survey of the level of organizational commitment of employees of 250 prominent companies in the world, by the Gallup Institute [18].

On the other hand, despite the good position of their job income, in relation to the implementation and follow-up of organizational goals, employees are used to running away from work and shirking their job responsibilities. It seems that the continuation of this trend in the organization will lead to a decrease in productivity, lengthening the process of doing things and lagging behind the plans, and as a result, the full realization of the organizational goals will face many problems. The theory of personality traits is one of the most important theoretical areas in the study of personality. Nowadays, many researchers are of the opinion that the five-factor model of personality can increase our knowledge about the personality and health of people, Costa and McCree. Personality is considered to consist of five main factors. It is assumed that these five factors cover many personality traits. As it can be said that each of the

five main factors, i.e., neuroticism, extroversion, flexibility, He considered agreeableness and responsibility or being conscientious as a set of compromised traits that can help both the individual and the group to achieve their basic needs [7].

2 Background research

In [7], the findings showed that the characteristics Personality factors explained 33%, social and organizational support 38% and total variables explained 41% of job attachment changes in school counselors and social and organizational support variables were suitable mediators between personality characteristics and job attachment.

Azin [5] in a research has investigated "methods of increasing the organizational attachment of employees in information organizations" and reached the conclusion that the organizational attachment of employees, their sense of satisfaction, commitment, dependence and attachment to the organization It leads to better job performance, reduction of employees leaving the organization, active social behavior, not being absent from work, altruism and helping colleagues, as well as financial success and increasing the effectiveness and efficiency of the organization.

Jalilian [18] has studied "the effect of individual and organizational factors on employees' organizational attachment" in a research. The results of the test showed that organizational factors ($t = 0.58, \beta = 7.03$) and individual factors ($t = 4.05, \beta = 0.31$) influence organizational attachment. It was also found that organizational factors, the most the effect on the dimension of organizational sacrifice ($t = 49.6, \beta = 0.95$).

Alavi [3] in a research entitled: "Designing a model of organizational creativity based on job characteristics and occupational attachment of physical education employees of the Technical and Vocational University of Iran", the results of the research showed that the best predictor of job attachment of physical education employees of the Technical and Vocational University of Iran, It was a problem solving feature. However, the characteristic of independence ($ES = 0.26$) and feedback from the job ($ES = 0.24$) had a greater effect on employee creativity.

In a research conducted by Mustafavi Rad et al. [35], "Assessing the simple and multiple relationship of individual and organizational variables with job attachment in nurses" was examined. The findings showed that the dimensions of organizational justice, extroversion and conscientiousness are able to advance There are changes related to job attachment of subjects.

Tisu et al. [36] in a research with the aim of "examining the factors affecting employee attachment", state that among the factors that can affect employee attachment are the personality traits of extroversion and conscientiousness. Cited.

In Hilmiana's research [30], which was conducted with the aim of "examining the effect of personality on employee attachment", the findings showed that personality has a significant effect on employee attachment, and job attachment has a significant positive relationship with perceived organizational support.

Hagesens [16] who investigated "The effect of organizational climate on job attachment"; This research showed that managerial support and organizational support have no effect on increasing the job attachment of employees.

Bakker et al. [6] found in a study that the combination of high job requirements with low job resources significantly predicted burnout (excessive fatigue and pessimism). In this research, the relationship between job requirements and organizational attachment directly It has been tested.

Fabian [37] has studied the "relationship between organizational virtue and work engagement". The results of the research indicate the positive effect of organizational virtue on work relatedness.

Schaufeli and Bakker, [33] stated in a research that by creating organizational attachment in employees, a positive synergy between the individual and the organization occurs, which will have positive consequences for both groups. The first step is to acquire professional and personal resources.

3 Theoretical framework

Commitment refers to the level of people's enjoyment of what they do [14] and employee commitment shows how much the organization has been able to "heart and mind" its employees to achieve strong business performance. take possession [29]. In the topic of employee attachment and personality factors, there are several models that were studied and analyzed to achieve the goals of this research, in order to present and explain the employee attachment model with a solid theoretical framework. These models are summarized and presented in table 1:

Table 1: Attachment models and personality models in research literature

Variables	Model	Variables	Model
f-sacrifice, conscientiousness Chivalry, decency, moral virtues	Orgen and Podsakoff [31]	cognitive dimension, emotional dimension, physical dimension	Kahn [19]
sacrifice General surrender	Smith [8]	attracted, Sacrifice, vitality	Schaufeli and Bakker [33]
Delegation of authority, teamwork Education and training	Boone and Kurtz [20]	Respect for freedom Individuality of people	Model Kahn [19] Schaufeli and Bakker [33] Lawler and Hall [24] Carmeli [9]
Obsessive compulsive personality work addiction	Modrek [28]	Favorable organizational image or perceived external credibility, normative commitment Protestant work ethic	Carmeli [9]
Personal characteristics, the nature of work duties, organizational characteristics	McCloy and Wise [26]	External factors Internal factors	Greene and Miller [12]
Distributive justice, job characteristics Perceived organizational support Perceived supervisor support Reward and recognition, procedural justice	Saks [32]	Job requirements, job resources, personal resources, organizational resources	Fani et al. [11]
Psychological capital Perceived organizational climate Organizational hierarchy	King [22]	Job characteristics Create energy motivating	Agarwal and Gupta [1]
Relationship career path Transparency, handover Encouragement, cooperation Control, participation Validity the trust	Seijts and Crim [34]	Business strategies, communication, credit, performance results Cognition, dynamic work roles Maximum performance, reputation of the organization Cultivating mass communication Serving the customer, creating prosperity Career development Power and energy levers	Zinger [38]
Personality characteristics *Social support* *Organizational support*	Parsa Moein et al. [7]	Main features Secondary features	Gordon Allport [4]
Neuroticism, extroversion Flexibility, agreement Conscientiousness	McCrae and Costa [27]	ntroversion/extroversion Excitability/emotional stability psychosis	Eysenck [10]

3.1 Definition of research variables

The key variables of this research are defined as follows:

1- Employee attachment: attachment (belonging/enthusiasm) is the improved mental and emotional connection that employees have towards their job, organization, manager and colleagues. Attachment affects a person in such a way that he voluntarily tries to do the work, gets involved with his work and has a high motivation and contributes to the profitability of the organization [15].

2- The five-factor model of personality: this model considers personality to consist of five main factors. It is assumed that these five factors cover many personality characteristics, as each of The five main factors are neuroticism, extroversion, acceptance of new experiences (flexibility), agreeableness, responsibility and conscientiousness as a set of adaptive traits that can affect both the individual and the help the group to meet their basic needs [21].

Type of scientific card (basic, theoretical, applied or practical): Since this research seeks to examine the correlation of the components of the five-factor model of personality with the dimensions of the mixed model of employee attachment in the Iranian Ports and Maritime Organization, it is practical in terms of its purpose.

3.2 Scope of research

The subject area is in the field of organizational behavior and human resources management. Spatial area: This research was conducted with the aim of designing the employee attachment model in the Ports and Maritime Organization, so its spatial area is the Ports and Maritime Organization of Iran.

Time scope: The present research was conducted between 2019 and 2021. Interviews were done in the first 6 months of 2019 and questionnaires were distributed and collected in the fall of 2021.

4 Research Methods

The research method in this collection is mixed exploratory. This type of research project consists of two stages, in the first stage, qualitative data based on theme analysis and using the interview method were collected, in which "the presentation and explanation of the employee attachment model based on the five-factor model of personality in the organization" Iran's ports and shipping" are scrutinized. Then, to determine the relationship of qualitative data, quantitative data is used, in fact, qualitative data make quantitative data.

The process model used for theme analysis in the current research is derived from Harrocks and King's model, which was carried out through the following steps:

1. Detailed study of the text of each interview and determining the basic concepts and open codes in it: in this step, by carefully studying the text of the interviews, one or more lines that contain a concept, a phrase and a code are allocated and in the table The basic concepts are included so that they can be compared with each other later and integrated if necessary.

2. Comparison and integration of open concepts, in the form of sub-themes and central coding: in this stage, by carefully studying the open concepts and finding parts that overlap or are distinct, these concepts are categorized and named The relevant topics were organized in the form of sub-themes.

3. Comparison and integration of sub-themes in the form of main themes and selective codes: in this stage, through multiple back and forth between sub-themes and sometimes open categories, the sub-themes are summarized and categorized so that the final themes can be extracted. did At this stage, the main themes were put together and reviewed in tables with basic concepts and related sub-themes.

As an example, Table 2 shows these steps to reach the selective coding stage in an interview.

4. Integration of data and themes: In the last step, the tables related to all the interviews were compared and analyzed. In this stage, through many back and forth between open concepts, sub-themes and main themes that were done in the previous stages in 15 tables out of 15 interviews, the themes were obtained if needed. It was merged and grouped together. In this way, the main themes of the model, extraction and related tables were set. The result of this summary is shown in the form of theme network in Figure (3) in the findings section.

4.1 Statistical characteristics of research

The statistical population of the research in the qualitative part includes 15 experts who are specialized managers of the Ports and Maritime Organization of the country and have at least 15 years of work experience. The interviews were conducted during 25 one-hour sessions, and after recording, each interview was typed and analyzed. The statistical population in the quantitative section is 460 managers and organizational experts, from whom to complete the questionnaire was surveyed.

For sampling, two methods of purposeful and snowball sampling were used, and by conducting semi-structured interviews to design, explain and present the employee attachment model based on the five-factor model of personality in the Iranian Ports and Maritime Organization. In the quantitative stage, because the target population of the research has a homogeneous structure, a simple random sampling method was used. Due to the corona situation, the questionnaire was sent virtually in the press line system. Therefore, more than 280 questionnaires were distributed among managers and experts of Ports and Maritime Organization, and finally 205 questionnaires needed for analysis were collected.

The term validity and reliability in qualitative researches, in general, checking the accuracy and verification of validity and reliability in qualitative researches includes four criteria "validity, transferability, reliability and verifiability" [25]. In order to show the validity and reliability of this research, or in fact, the same "reliability of the study",

Table 2: Comparison and integration of primary concepts in the form of sub-themes and main themes (selective codes) for interview code 1

main theme	Sub-theme	Basic concept	Proposition
The performance of managers	Hierarchical coaching of managers	The importance of the performance of immediate personnel managers	1
		The need to be a role model for senior management in terms of dedication and organization	6
		Couching is the task of management hierarchy in the organization	13
	Management systems	The need to use management systems	10
		Existence of sufficient knowledge of managers of quality personnel in the organization	31
		The need to implement the competency system of managers	15
Vitality	Employee vitality	Proper planning is the factor of employee vitality	2
		The effectiveness of motivation in people's vitality	3
attracted	Interested in work	The need to create attractiveness through the proportionality between the time of the employees and the projects	4
		Higher work interest among project unit employees	17
	attractiveness of work	The need to create attractiveness in the routine and repetitive tasks of the organization	18
	drowning in work	A person should not feel the passing of working hours	5
Sacrifice	Sacrifice	The need to create the value of sacrifice for the organization through timely and proper appreciation	7
		Weakness of the reward system and comprehensive recognition is the factor that weakens the sense of dedication of employees	8
		The need to continue recognizing and valuing dedicated personnel	9
	A sense of selflessness	The effectiveness of the proportionality of responsibility with the individual's ability to create a sense of selflessness	39
Strategies	Process driven	The need to institutionalize the central process in the organization	11
	Limitations	Geographically limited mission area	21
	Guidelines and objectives	Lack of vacuum in terms of procedures and instructions	12
		Responsiveness of the organization's goals with the 20-year vision document and the organization's strategies	14
Integration	The challenge of a partial look	Not all jobs are created equal in terms of visibility	19
		Lack of motivation or attachment of non-specialized employees and managers	20

all the above four criteria have been used. In the quantitative part, content validity and construct validity were used to measure the validity of the instrument has been

A) Content validity: This type of validity is used to examine the components of a tool, i.e. questionnaire questions, and its purpose is to answer the question of whether the questions adequately measure the concept or not? Content validity is checked by experts in the subject. In order to ensure the validity of the questionnaire of this research, two qualitative and quantitative methods have been used. In order to measure the validity using a qualitative method, the designed questionnaire was given to academic and organizational experts and experts were requested to give the necessary feedback in relation to by matching the content of the questionnaire with the attachment components of the employees, they presented it. For this purpose, 10 people who included professors from different universities and also organizational experts were asked in the form of opinion forms and CVR, CVI were calculated. According to these two indicators, because all values above 0.62 were obtained. Content validity was confirmed. In this research, to check construct validity, two types of exploratory and confirmatory factor analysis were used, the results of which are detailed below. To check the reliability of the questionnaire, an initial sample of 30 was used. Cronbach's alpha coefficient is calculated in table 3. If the value of Cronbach's alpha is greater than 0.7, it indicates that the questions are reliable.

Table 3: Table of Cronbach's alpha values for research indicators

Cronbach's alpha	Number of questions	Indicator	Cronbach's alpha	Number of questions	Indicator
0/794	7	Organizational structure and organization	0/719	2	The roles of managers
0/781	8	Corporate Communications	0/727	2	Meritocracy
0/772	5	Positive organizational image	0/754	3	Job attractiveness
0/714	2	Expert authority of employees	0/733	2	performance management
0/736	4	The character of the staff	0/756	4	Strategies
0/727	2	learned organization	0/742	3	Honoring employees
0/716	3	Participation system	0/801	8	human recourse devlopment
0/723	3	Service compensation system	0/754	2	Organizational knowledge of people
			0/749	2	Vitality of employees
			0/923	Cronbach's alpha value of all questions	

As it is clear from the data in the table above, the calculated Cronbach's alpha coefficients are greater than 0.7 in all cases, which indicates the high validity of the questionnaire. The combined reliability in all components is greater than 0.7 and this means that the reliability of the research questionnaire is also confirmed in this respect.

To analyze the data obtained from the interviews, the theme analysis technique has been used, theme analysis is a method to determine, analyze and express the patterns (themes) in the data. This analysis was first done by manual method and by studying and going back and forth by the researcher. In the quantitative stage of data analysis, descriptive and inferential sections were prepared using SmartPLS software. In the inferential part, confirmatory and exploratory factor analysis, t and F tests and the measurement model quality test were used. Then, in order to reach the final model, the method of structural equation modeling was used, and finally, the adequacy of the model was checked using the R^2Q^2 and GOF criteria.

In the present research, in the qualitative part and using the Max QDA software, the components of the attachment model were presented in the form of table 4:

In the quantitative section, various types of statistical indicators such as frequency, percentage of frequency, various tables and graphs were used to describe the collected data, in the inferential statistics section, in order to check the research hypotheses from the method of examining structural equations and analysis. The path is used by the method of partial least squares. SPSS 22 software was used in the descriptive statistics section and PLS-Smart software was used in the inferential statistics section.

Table 4:   The components of the attachment model in the qualitative section

Components	documents	Percentage	percentage (valid)
Meritocracy	14	91.67	100
human recourse devlopment	14	91.67	100
The roles of managers	9	75	81.82
Honoring employees	8	66.67	72.73
Organizational structure and formations	8	66.67	72.73
Corporate Communications	7	58.33	63.64
The character of the staff	7	58.33	63.64
Service compensation system	7	58.33	63.64
Job attractiveness	6	50	54.55
Positive organizational image	6	50	54.55
performance management	6	50	54.55
Strategies	6	50	54.55
Participation system	5	41.67	45.45
learned organization	5	41.67	45.45
Vitality of employees	5	41.67	45.45
Expert authority of employees	4	33.33	36.36
Organizational knowledge of people	2	16.67	18.18

4.2 Exploratory factor analysis

Considering that the purpose of factor analysis is to explain and justify the observed correlations, therefore, rotated methods should be used. In fact, the rotation of the factors means the transformation of the factor structure into a simple structure of the factor load, which is done in order to facilitate the interpretation of this structure. Varimax method developed by Kaiser is used in this article. In this method, in each factor, large loads increase and small loads decrease, so that each factor has only a few limited variables with large loads and, on the contrary, many variables with small loads [13].

In this research, SPSS 22 software was used to perform exploratory factor analysis. One of the important things in this analysis is choosing the right method for extracting the factors, and in this research, the principal axis factorization (PAF) method was used. The steps of exploratory factor analysis for the research questionnaire are as follows:

First step) data preparation for factor analysis: Before the factor analysis is done, the items must be refined, and for this purpose, the revised overall correlation of the option (CITC) is used. If the value of the options is less than 0.30, they should be removed from the analysis because they distort the results of the factor analysis. According to the obtained results, no questions were deleted.

Second step) recognizing the possibility of factor analysis on the data: In order to find out whether the data related to the scale can be reduced to several factors or not, the following two statistics are used.

1- Kaiser-Meyer-Olkin sampling adequacy index:

This index, marked with the abbreviation KMO, fulfills the first objective of factor analysis. That is, this test determines whether the variance of the research variables is influenced by the common variance of some hidden and fundamental factors or not? In other words, can it be said that the variance of the set of variables is caused by a series of hidden and fundamental factors and not all of these variables? If the value of this index is 0.7 or higher, then factor analysis can be used [13].

2- Bartlett's sphericity test:

This test aims to fulfill the second objective of factor analysis. That is, this test helps us to discover a new structure

based on the correlation between variables and factors and their meaning after providing the possibility of reducing the data to a series of hidden factors [13] According to the results obtained from the test in table 5 that the value of KMO is higher than 0.7 and the significant value of Bartlett's test is smaller than 0.05, so factor analysis can be used and the data can be reduction to a number of underlying factors.

Table 5:   KMO and Bartlett test

Adequacy of KMO sampling		0/760
Bartlett's test	Chi-square value	8889/843
	Degrees of freedom	1891
	A significant amount	0/001

Third step) Knowing the contribution of the set of factors in explaining the variance of each item: The amount of sharing is the amount of variance of a variable that is shared with other variables under analysis. If the common value for a variable is less than 0.30, it indicates that that variable has nothing to do with the factors and therefore they should be removed from the analysis [13]. According to the factor analysis, the eigenvalue of all options is higher than 0.3, so we can proceed to the next step.

Fourth step) Knowing the contribution of each factor in explaining the total variance of all items: The next issue in factor analysis is that each factor was able to determine how many percent of the variance of the set of variables. For this purpose, the Kaiser criterion is used. In this method, all factors and components with an eigenvalue less than (1) are discarded and only factors and components whose eigenvalue is greater than (1) are selected. It is also possible to use the criterion of explained variance of the variables by the factors. In this method, the cumulative percentages of variance obtained are used [13]. According to the obtained results, 17 factors have a value higher than one. Therefore, a maximum of 17 factors can be made from the total of 62 items.

Fifth step) Knowing the correlation matrix between items and factors and classifying each item in each factor: In this step, the results of the matrix of rotated components are used. In this table, to categorize items among the factors, a decision must be made based on their factor load, that is, the researcher categorizes each item based on the largest factor load [13]. Based on the investigations carried out in this research, it has been determined that each of the items is attributed to one of the factors.

Confirmatory factor analysis for construct validity: In this part, confirmatory factor analysis is used to measure the validity of the constructs obtained in the previous parts.

First, to enter the structural equations, the research tools must be subjected to confirmatory analysis to determine the validity of the structure. In this research, to confirm each of the variables as well as the related items, confirmatory factor analysis was used with the help of PLS software.

Factor loadings are the correlation of variables with factors. If the absolute value of these factor loadings is 0.5 or higher, they are considered high factor loadings, and if the factor loading of an option is less than this value, it can be ignored and removed [23].

The result of the analysis of factor loadings is presented in table 6. As this table shows, all factor loadings are greater than 0.5. Therefore, the model has good reliability.

As it is clear from table 6, the values of the average variance extracted (AVE) are greater than 0.5 in all cases, which indicates the validity of the research variables. Also, the combined reliability values in all components are greater than 0.7. Therefore, the reliability of the research questionnaire is confirmed.

Divergent or diagnostic validity: Next, in order to check the diagnostic validity or variance of the measurement model, the Fornell-Locker criterion is used in the software.

The outputs show that the root mean of the extracted variance of each hidden variable is the maximum correlation of that variable with other hidden variables. This is a self-expression of the appropriate diagnostic validity of the measurement model under investigation.

Structural equation modeling: Checking the adequacy of the model with criteria R^2: the value R^2 in this check is more than 0.1 and confirms the appropriateness of the fit of the structural model.

Criterion Q^2: The criterion Q^2 determines the predictive power of the model, and if its value is 0.02, 0.15, and 0.35 for an endogenous structure, it indicates the predictive power, respectively. Weak, medium, and strong structures or

Table 6: Table of characteristics of factor loading, composite reliability and average variance of the research measurement model

mean variance	composite reliability	factor load	question number	Component	mean variance	composite reliability	factor load	question number	Component
0.626	0.909			Corporate Communications	0.804	0.891			The roles of managers
0.849	0.919	0.930	Q32	Appropriate interaction of people with each other	0.804	0.891	0.910	Q01	The roles of managers
		0.914	Q33				0.883	Q02	
1	1	0.858	Q34		0.885	0.939			Meritocracy
1	1	0.864	Q35		0.885	0.939	0.940	Q03	Meritocracy
0.843	0.915	0.915	Q36	Cultivating adaptability			0.942	Q04	
		0.922	Q37	skills in employee communication	0.664	0.855			Job attractiveness
1	1	0.818	Q38		0.664	0.855	0.878	Q05	Job attractiveness
1	1	0.778	Q39				0.832	Q06	
0.657	0.884			Positive organizational image			0.729	Q07	
1	1	0.851	Q40		0.886	0.940			performance management
1	1	0.811	Q41		0.886	0.940	0.934	Q08	performance
0.814	0.897	0.905	Q42	Attractive nature of			0.948	Q09	management
		0.899	Q43	the organization	0.750	0.923			Strategies
1	1	0.769	Q44		0.750	0.923	0.897	Q10	Strategies
0.741	0.851			Expert authority of employees			0.884	Q11	
0.741	0.851	0.878	Q45				0.867	Q12	
		0.843	Q46	Expert authority of employees			0.815	Q13	
0.734	0.917			The character of the staff	0.612	0.756			Honoring employees
0.734	0.917	0.840	Q47	The character of the staff	0.752	0.858	0.868	Q14	Attention to human
		0.837	Q48				0.866	Q15	dimensions in work
		0.877	Q49		1	1	0.673	Q16	
		0.872	Q50		0.507	0.859			human recourse devlopment
0.893	0.943			learned organization	1	1	0.772	Q17	
0.893	0.943	0.934	Q51	learned	1	1	0.804	Q18	
		0.955	Q52	organization	1	1	0.807	Q19	
0.774	0.872			Participation system	0.866	0.928	0.931	Q20	Sustainable improvement
1	1	0.846	Q53				0.931	Q21	programs
0.872	0.932	0.938	Q54	Clarity of decision	1	1	0.657	Q22	
		0.929	Q55		0.831	0.908	0.911	Q23	Cultivating responsibility and teamwork
0.788	0.882			Service compensation system			0.912	Q24	
0.896	0.945	0.947	Q56	Financial support	0.574	0.871			Organizational structure and organization
		0.946	Q57		1	1	0.790	Q25	
1	1	0.869	Q58		0.822	0.903	0.899	Q26	Financial structure
0.867	0.929			Organizational knowledge of people			0.915	Q27	of fee income
0.867	0.929	0.931	Q59	Organizational knowledge	1	1	0.776	Q28	
		0.931	Q60	of people	1	1	0.779	Q29	
0.831	0.908			Vitality of employees	0.858	0.924	0.926	Q30	Structure appropriate to
0.831	0.908	0.900	Q61	Vitality of employees			0.926	Q31	the mission of the organization

exogenous structures related to it. The value Q^2 obtained in this study is higher than zero and shows the appropriate predictive power of the model regarding the endogenous structures of the research and confirms the appropriate fit of the structural model.

GOF criterion: Another index introduced for fit by Tannenhaus et al. is the general fit criterion (GOF), which is calculated by calculating the geometric mean of the mean of the share and the R^2 number.

$$GOF = \sqrt{\overline{communality} \times \overline{R^2}}.$$

This index also acts like the fit indices of the Lisrel model and is between zero and one, and the values close to one indicate the appropriate quality of the model. Of course, it should be noted that this index does not check the degree of fit of the theoretical model with the collected data, just like the chi-square based indices in Lisrel models. Rather, it examines the overall forecasting ability of the model and whether the tested model was successful in predicting the endogenous variables or not.

Table 7:   The results of the overall fit of the model with the GOF criterion

$\overline{R^2}$	$\overline{communalities}$	$GOF = \sqrt{\overline{communalities} \times \overline{R^2}}$
0/376	0/367	0/371

As can be seen in table 7, the average value of Communalities is 0.367 and the average value of R^2 is 0.376, and according to the formula, the standard value of GOF is equal to 0.371. which is greater than the criterion value of 0.36 and shows the appropriate power of the model in predicting the endogenous variable of the model. The output of the software was used to check the hypotheses and test the significance of the path coefficients between the variables. Path coefficients and the results related to their significance are given in table 8.

Table 8:   The results of structural model evaluation

Impact rating	Test result	A significant number (t-value)	factor load	Direction	Row
(13)	confirmation	3/311	0/466	roles of employee ← attachment managers	1
(12)	confirmation	4/184	0/480	meritocracy ← Employee attachment	2
(9)	confirmation	5/979	0/581	Job attractiveness ← employee attachment	3
(15)	confirmation	3/037	0/430	Performance management ← employee attachment	4
(11)	confirmation	3/490	0/562	strategies ← Employee engagement	5
(7)	confirmation	16/088	0/662	Honoring employees ← Employee engagement	6
(4)	confirmation	13/065	0/739	Development of human resources ← Employee engagement	7
(13)	confirmation	23/282	0/783	Organizational structure and organization ← Employee engagement	8
(12)	confirmation	17/137	0/787	Organizational communication ← Employee engagement	9
(16)	confirmation	16/951	0/695	Positive organizational image ← Employee engagement	10
(17)	confirmation	3/374	0/408	The specialized authority of ← Employee engagement employees	11
(16)	confirmation	3/291	0/429	Employee behavior engagement ← Employee	12
(14)	confirmation	2/577	0/463	learning organization engagement ← Employee	13
(1)	confirmation	29/571	0/807	participation system engagement ← Employee	14
(5)	confirmation	21/591	0/719	service compensation system ← Employee engagement	15
(10)	confirmation	4/664	0/581	Organizational knowledge ← Employee engagement	16
(8)	confirmation	3/839	0/585	Employee vitality ← Employee engagement	17

Table 9:   The results of the evaluation of the structural model for the dimensions of the five-factor model of personality

Impact rating	Test result	A significant number (t-value)	Operational burden	Direction	Row
Corporate Communi cations					
(2)	confirmation	22/713	0/910	extroversion Communications Corporate	1
(1)	confirmation	39/839	0/957	Agreeableness Communications Corporate	2
(3)	confirmation	9/214	0/826	Nervousness Communications Corporate	3
human recourse devl opment					
(2)	confirmation	16/802	0/856	Acceptance of new experiences humanrecourse devlopment	4
(1)	confirmation	41/831	0/954	Conscientiousness human recourse devlopment	5
Job attractiveness					
(1)	confirmation	26/444	0/940	Acceptance of new experiences Job attractiveness	6
(2)	confirmation	14/375	0/839	Conscientiousness Job attractiveness	7
The character of the staff					
(1)	confirmation	49/918	0/963	Acceptance of new experiences The character of the staff	8
(2)	confirmation	16/99	0/876	Conscientiousness The character of the staff	9

5 Discussion and conclusion

The current research has used the exploratory mixed method to investigate the correlation between the dimensions of the five-factor personality model and the dimensions of the employee attachment model in the Iranian Ports and Maritime Organization. In fact, this research has benefited from the advantages of both qualitative and quantitative methodologies, with the priority of the qualitative method. The main question in this research is:

Are the components of the five-factor model of personality correlated with the dimensions of the employee attachment model?

Based on Tables 8 and 9 and according to the obtained factor loadings, personality factors are correlated with some dimensions of the employee attachment model, which are stated below:

1- According to the results of the evaluation of the structural model, the significant statistic between the variable "job attractiveness and employee attachment" is equal to (5.979) which is greater than (1.96) and shows this is that the relationship between "job attractiveness and employee attachment" is significant at the confidence level (95%). Also, the factor loading between these two variables is equal to (0.581) and shows the positive effect of "job attractiveness" on the attachment of the organization's employees.

Based on the results of Student's t-test, the significant statistic between the variables "acceptance of new experiences, conscientiousness" from the five-factor model of personality and "job attractiveness" from the variables of "employee attachment" is equal to (444/444) 26) and (14.375) which is greater than the value (1.96) and shows that the relationship between "job attractiveness and the components of the five-factor personality model" at the confidence level (95%) is significant. has Also, the factor loading between these two variables is equal to (0.940) and (0.839) and shows the positive impact of the variables "acceptance of new experiences and conscientiousness" from the five-factor personality model on "job attractiveness".

2- Based on the results of the evaluation of the structural model, the significant statistic between the variable "human resources development and employee attachment" is equal to (13.065), which is greater than the value (1.96) and shows It is that the relationship between "human resource development and employee attachment" is significant at the confidence level (95%). Also, the factor loading between these two variables is equal to (0.739) and shows the positive impact of "human resources development" on the attachment of the organization's employees.

Based on the results of the student's t-test, the significant statistic between the variables "acceptance of new experiences, conscientiousness" from the five-factor model of personality and "development of human resources" from the variables of "employee attachment" is equal to (852.16) and (831.41) which is greater than the value (1.96) and shows that the relationship between "development of human resources and the components of the five-factor model of personality" at the confidence level (95%) is significant. Also, the factor loadings between these two variables and human resources development are equal to (0.856) and (0.954) and the positive impact of the variables "acceptance of new experiences and conscientiousness" from the five-factor model of personality on the variable "human resource development" shows.

3- Based on the results of the evaluation of the structural model, the significant statistic between the variable "organizational communication and employee attachment" is equal to (17.137), which is greater than the value (1.96) and shows that is that the relationship between "organizational communication and employee attachment" is significant at the confidence level (95%). Also, the factor loading between these two variables is equal to (0.787) and shows the positive impact of "organizational communication" on the attachment of the organization's employees.

Based on the results of Student's t-test, the significant statistic between the variables "Extroversion, agreeableness, neuroticism" from the five-factor model of personality and "organizational relations" from the variables of "employee attachment" is equal to (22/713) and (39/839) and (9/214) which are greater than (1/96) and show that the relationship between "organizational relations and the components of the five-factor model of personality It is significant at the confidence level (95%). Also, the factor loadings between these variables and "organizational communication" are equal to (0.910), (0.957) and (0.826) and the positive effect of the variables "extroversion, agreeableness, neuroticism" from the five model It shows a personality factor on the variable "organizational communication".

4- According to the results of the evaluation of the structural model, the significant statistic between the variable "employee character and employee attachment" is equal to (3.291), which is greater than the value (1.96) and shows this is that the relationship between "employee behavior and employee attachment" is significant at the confidence level (95%). Also, the factor loading between these two variables is equal to (0.429) and shows the positive impact of "employee behavior" on the attachment of the organization's employees.

Based on the results of the Student's t-test, the significant statistic between the variables "acceptance of new experiences, conscientiousness" from the five-factor model of personality and "employee character" from the variables of "employee attachment" is equal to (931/931) 16) and (49.918) which is greater than (1.96) and indicates that the relationship between "employee behavior and the components of the five-factor personality model" at the confidence level (95%) is significant. has Also, the factor loadings between these two variables and "employee character" are equal to (0.876) and (0.963) and the positive effect of the variables "acceptance of new experiences and conscientiousness" from the five-factor model of personality on the variable "employee character" " shows And the sub-questions are:

▶ What are the elements, dimensions and components of the employee attachment model?

As mentioned earlier, the research method in this research is mixed exploratory. In the qualitative part of the theme analysis and in the quantitative part, factor analysis and structural equations have been used. The output of this methodology is a model for the attachment of Ports and Maritime Organization employees based on the five-factor model of personality, which consists of 17 dimensions and 51 components, which are listed in Table 10.

▶ In order to implement the employee attachment model, based on the five-factor personality model, what is the order and priority of the dimensions of the model?

Based on the findings of the factor analysis in Table 8, the order and priority of the dimensions of the attachment model have been stated. Among these dimensions, the system of participation and organizational communication has the highest priority and the dimensions of "professional authority of employees, character of employees" have the lowest ranking of influence (factorial load) on the variable of employee attachment. Among the personality factors, the highest priority is with "conscientiousness and acceptance of new experiences" and the lowest priority is with the "psychotic" factor.

Table 10:   Dimensions and components of the model

Dimensions (main item)	Components (subcategory)	Dimensions (main item)	Components (subcategory)
The roles of managers	The behavior of managers	Meritocracy	Specialization
	Coaching managers		Systematic upgrade
Job attractiveness	Employee focus on work	performance management	Performance-based pay
	Redesigning jobs		Fair performance evaluation
	Diversification of jobs		
Strategies	Action based on strategies	Positive organizational image	The internationality of the organization
	Outsourcing strategies		The organizational value of being a leader
	A strategy in line with the 20-year vision		Attractive nature of the organization
	The rule of law		being unique
Honoring employees	Attention to human dimensions in work	Expert authority Staff	Work experience
	Work-life balance		Scientific authority
human recourse devlopment	Succession	Corporate Communications	Appropriate interaction of people with each other
	Employee training process		Build trust
	Cultivating people's innovation		Continuous emotional communication of employees
	Sustainable improvement programs		Facilitate the exchange of information between managers and personnel
	Cultivating responsibility and kindness		Cultivating adaptability skills in employee communication
	Adjustment of personality factors		Modulation of the nervous response of people
The character of the staff	Honesty	learned organization	knowledge management
	Attendance beyond working hours		
	Courage to work		knowledge management
	Sacrifice		
Participation system	Informing employees of the goals	Service compensation system	Financial support
	Clarity of decision		Efficiency of upstream rules
Organizational knowledge of people	Organizational recognition of personnel	Vitality of employees	Active presence of employees in the organization
			Health and vitality of employees

Suggestions

1- Based on the comparative analysis between the findings of the research in both qualitative and quantitative parts, it shows that the ranking of the 17 dimensions of the employee attachment model, the dimension "merit with 100% coding space" is the most important and ranked 1 from the point of view has had experts, while in the quantitative ranking, the dimension of "meritoriousness" has the 12th rank. Considering this issue, it is suggested that in the organization, more than before, in the decisions to promote the employees, The expertise and competence of employees should be set as criteria and systematic processes should be designed and implemented to promote personnel. Organizational transfers of people, especially managers, were not created by political will, but based on "succession system", "merit system" and during Valid and transparent processes.

2- It is suggested that managers pay more attention to the participation of employees in decision-making and defining and defining organizational goals, inform all stakeholders about organizational goals, and make organizational decisions clearly and with transparent mechanisms.

Inform the employees. Managers' attention to the expert opinions of employees will strengthen the decision-making role of employees and will guide their participation in a specific and reliable system.

3- Due to the fact that "human resources development" is one of the dimensions with high priority, it is suggested that expert teams be formed in the organization to evaluate the suitability of jobs and employees, these teams will make the best suggestions for Each post will provide. The findings of the current research show that personality traits have an effect on 5 dimensions of attachment, so it is suggested to design and consider indicators for the personality fit of people with required jobs in the recruitment and hiring process. Also, by strengthening the emotional connection between personnel and managers, the inappropriate personality traits of employees should be corrected in order to do their work better.

4- According to the findings of the present research, "Duty" (responsibility) is one of the important factors of the five-factor model of personality and has an effect on attachment, so it is suggested that in order to improve people's responsibility, work should be designed as a team as much as possible. be implemented and the necessary training for the effectiveness of team activities for employees, defined and implemented.

References

[1] U.A. Agarwal and V. Gupta, *Relationships between job characteristics, work engagement, conscientiousness and managers' turnover intentions: A moderated-mediation analysis*, Person. Rev. **47** (2018), no. 2, 353–377.

[2] B. Ahadi and A. Fathi, *Investigation of psychological factors affecting the job performance of employees*, East Azarbaijan Admin. Sci. Quart. **4** (2013), no. 15, 63–78.

[3] S.H. Alavi, F. Farzan, M. Dousti, and M. Loghmani, *Designing the organizational creativity based on job characteristics and job involvement among physical education units' employees of Technology University*, Int. J. Appl. Exercise Physio. **6** (2017), no. 3, 91–102.

[4] G.W. Allport and H.S. Odbert, *Trait-names: A psycho-lexical study*, Psycho. Monographs **47** (1936), no. 1, i.

[5] M. Azin, *Investigating the ways of increasing the organizational belonging of employees in intelligence organizations*, Police Protect. Secur. Quart. **12** (2016), no. 45, 47–72.

[6] A.B. Bakker and E. Demerouti, *Towards a model of work engagement*, Career Dev. Int. **13** (2008), no. 3, 209–223.

[7] H. Barmaki, P.M. Korosh, and M. Kalantari, *Providing model of job engagement based on personality characteristics with mediating social and organizational supports in schools of Tehran city*, J. Soc. Psycho. **7** (2018), no. 53, 13–23.

[8] G.M. Breakwell, S.E. Hammond, C.E. Fife-Schaw, and J.A. Smith, *Research Methods in Psychology*, Sage Publications, Inc, 2006.

[9] A. Carmeli, *Exploring determinants of job involvement: An empirical test among senior executives*, Int. J. Manpower **26** (2005), no. 5, 457–472.

[10] H.J. Eysenck, *Dimensions of Personality*, London: Methuen, Transaction Publishers, New Brunswick, New Jersey, 1947.

[11] A.A. Fani, A. Isa Khani, and H. Danai Fard, *Explaining the antecedents of belonging to work*, Public Manag. Res. **16** (2012), no. 5, 23–38.

[12] B.A. Greene, R.B. Miller, H.M. Crowson, B.L. Duke, and K.L. Akey, *Predicting high school students' cognitive engagement and achievement: Contributions of classroom perceptions and motivation*, Contemp. Educ. Psycho. **29** (2004), no. 4, 462–482.

[13] K. Habibpour Getabi and R. Safavi Shali, *A comprehensive guide to using SPSS in survey research*, Loya Motafkaran Publishing House, Tehran, 2015.

[14] A.Y. Haruna and G. Marthandan, *Foundational competencies for enhancing work engagement in SMEs Malaysia*, J. Workplace Learn. **29** (2017), no. 3, 165–184.

[15] S.M. Hashemi, *Chemistry of Management*, Industrial Management Organization Publications, Tehran, 2015.

[16] E. Haugsnes, *Investigating the effect of organizational climate on work engagement*, Master's thesis, University Oslo, 2016.

[17] A. Isa Khani, A.A. Fani, and H. Danaei Fard, *Explaining the consequences of work belonging and its impact on organizational commitment*, Quart. J. Manag. Res. Iran **16** (2012), no. 2, 151–166.

[18] H. Jalilian, *Investigating the effect of individual and organizational factors on employees' organizational attachment*, Organ. Behav.Stud. Quart. **6** (2016), no. 3, 105–132.

[19] W.A Kahn, *Psychological conditions of personal engagement and disengagement at work*, Acad. Manag. J. **33** (1990), no. 4, 692–724.

[20] O. Keng Boon, V. Arumugam, M. Samaun Safa, and N. Abu Bakar, *Hrm and TQM: association with job involvement*, Person. Rev. **36** (2007), no. 6, 939–962.

[21] S. Khorshid and H. Yazdani, *Studying the relationship between trust and sense of organizational belonging considering the moderating effect of organizational commitment*, Change Manag. Res. J. **4** (2019), no. 7.

[22] N. King, C. Horrocks, and J. Brooks, *Interviews in Qualitative Research*, SAGE Publications, 2019.

[23] P. Kline, *An Easy Guide to Factor Analysis*, Samt Publications, Tehran, 2001.

[24] E.E. Lawler and D.T. Hall, *Relationship of job characteristics to job involvement, satisfaction, and intrinsic motivation.*, J. Appl. Psycho. **54** (1970), no. 4, 305.

[25] Y.S. Lincoln, E.G. Guba, and J.J. Pilotta, *Naturalistic Inquiry*, Beverly Hills, CA: Sage Publications, 1985.

[26] R.A. McCloy and L.L. Wise, *Invited reaction: The effects of personality, affectivity, and work commitment on motivation to improve work through learning*, Human Resource Dev. Quart. **13** (2002), no. 4, 377.

[27] R.R. McCrae and P.T. Costa Jr, *Discriminant validity of NEO-PIR facet scales*, Educ. Psycho. Measure. **52** (1992), no. 1, 229–237.

[28] B. Modrek and C.J. Lee, *Alternative splicing in the human, mouse and rat genomes is associated with an increased frequency of exon creation and/or loss*, Nature Genetics **34** (2003), no. 2, 177–180.

[29] F.H. Mohsin, *The linkage between career growth, work engagement and organizational citizenship behavior: An insight*, Int. J. Sci. Res. Pub. **5** (2015), no. 5, 1–4.

[30] W.O.Z. Muizu, *The influence of personality on employee engagement and emotional intelligence (an empirical study on employees of rural banks in West Java, Indonesia)*, South East Asia J. Contemp. Bus. Econ. Law **12** (2017), no. 2, 2289–1560.

[31] D.W. Organ, P.M. Podsakoff, and S.B. MacKenzie, *Organizational citizenship behavior: Its nature, antecedents, and consequences*, Foundations for Organizational Science, SAGE Publications, 2005.

[32] A.M. Saks, *Antecedents and consequences of employee engagement*, J. Manag. Psycho. **21** (2006), no. 7, 600–619.

[33] W.B. Schaufeli and A.B. Bakker, *Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study*, J. Organi. Behav.: Int. J. Ind. Occupat. Organ. Psycho. Behav. **25** (2004), no. 3, 293–315.

[34] G.H. Seijts and D. Crim, *What engages employees the most or, the ten c's of employee engagement*, Ivey Bus. J.

70 (2006), no. 4, 1–5.

[35] M. Soodani, F. Mostafavirad, and M. Chinaveh, *Assessing the simple and multiple relationships between individual and organizational variables and job involvement among nurses*, Quart. J. Nurs. Manag. **4** (2016), no. 3, 42–53.

[36] L. Tisu, D. Lupșa, D. Vîrgă, and A. Rusu, *Personality characteristics, job performance and mental health: The mediating role of work engagement*, Person. Individ. Differ. **153** (2020), 109644.

[37] F.O. Ugwu, *Are good morals often reciprocated? Perceptions of organizational virtuousness and optimism as predictors of work engagement*, Asian J. Soc. Sci. Human. **1** (2012), no. 3, 188–198.

[38] J.T. Zinger and N.J. O'Reilly, *An examination of sports sponsorship from a small business perspective*, Int. J. Sports Market. Sponsorship **11** (2010), no. 4, 14–32.