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# Designing a human resources agility model in the tax affairs organization based on the government's agility policies

Farhad Ghassemi<sup>a</sup>, Alireza Rezghi Rostami<sup>b,\*</sup>, Rashid Zolfeghari Zaferani<sup>a</sup>

<sup>a</sup>Department of Public Administration, Roudehen Branch, Islamic Azad University, Roudehen, Iran <sup>b</sup>Department of Public Administration, South Tehran Branch, Islamic Azad University, Tehran, Iran

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## Abstract

This study aimed to design a human resource agility model in the Tax Affairs Organization based on the government's agility policies on 376 senior and middle managers of the country's tax affairs organization. The current applied research is quantitative in terms of data collection method. The primary data collection tool is the questionnaire made by the researcher in the department. The validity of the questionnaire was confirmed using the content validity method. Cronbach's alpha coefficient was calculated to evaluate the reliability of the questionnaire. Cronbach's alpha coefficient was more than 0.7, indicating good reliability. The partial least squares technique and SmartPLS software were used to test the hypotheses. The government's agility policies positively and significantly impacted human resource management, organizational values, and job design. Organizational improvement strategy positively and significantly affected human resources management, organizational values, and job design. Organizational improvement strategy positively and significantly affected human resources management, organizational values, and job design. Organizational improvement strategy positively and significantly affected human resources management of human resources. Organizational values positively and significantly affected human resources development and resilience capabilities.

Keywords: organizational agility, human resource agility, flexibility, accountability, government policy 2020 MSC: 91B64

## 1 Introduction

The agility of government organizations has been among the country's essential macro-management issues, especially in the last decade. The agility of government organizations and departments has been emphasized in the general policies of the administrative system announced by the Supreme Leader and in the sixth development plan. However, the government organizations of the country do not have enough agility in practice.

Regarding the dynamics of agility in the public sector, it can be said that agility factors interact and communicate continuously and consistently to create a correct cycle. Government organizations should be able to anticipate the needs of citizens and understand how those needs can affect policy decisions and operations. Additionally, government organizations should adapt to align political, human, technological, and structural resources and act flexibly but decisively to ensure that results and goals are achieved [10]. Despite the strong emphasis on human resource agility,

 $^{*}$ Corresponding author

*Email addresses:* ghassemi.farhad@yahoo.com (Farhad Ghassemi), a\_rezghirostami@yahoo.com (Alireza Rezghi Rostami), rashid\_zo@yahoo.com (Rashid Zolfeghari Zaferani)

what is observed in practice is that organizations, the issue of human resource agility is not only not given attention in most Iranian governments [3], but there is also a high level of inertia and lack of rapid response to the surrounding conditions [9]. However, the agility of government organizations has been considered in many government plans and high-level documents. According to the report published by the Islamic Consultative Assembly entitled "Government Agility from the Perspective of Administrative Reform in Iran" in December 2021, "...the issues of downsizing and agility have a twenty-year history in the policies and programs of the administrative system. Although most of them show that these policies have rarely been implemented, the issues arising from the large size and high cost of the government are well-known to policymakers and administrators in the field of administrative reform [4].

The above shows the importance of human resource agility in government organizations. However, as emphasized in the report of the Islamic Consultative Assembly, these policies have rarely been implemented. Therefore, there is a need for a transformative movement in the field of human resource agility in Iranian government organizations. Although agility was first introduced in production and supply chain management, it quickly entered other management areas due to its positive consequences. Since human resources are the most critical asset of an organization, human resource agility has become a dominant paradigm in human resource management [14]. Human resource agility is a crucial concept in both commercial and government organizations, and the public sector should be agile and responsive in today's society. Agile methods can change how the government plans, operates and delivers products and services [20]. In any case, in government organizations, implementing human resource agility methods can lead to higher productivity and better services to citizens [18].

Given the increasing environmental uncertainty (both in the public and private sectors), human resource agility can lead to cost reduction, customer satisfaction, preparation for introducing new services, evaluation, estimation of non-value-added activities, and increased competitiveness of government organizations. Citizens and businesses are demanding faster and more customized services, so agility policies need to be developed and implemented faster than before [2]. The main problem of the research is the low level of agility in Iranian government organizations. The prolongation of implementation processes in government organizations, leaving many projects unfinished, wasting resources and energy, not being able to respond quickly to unforeseen situations, and a lack of accountability among senior managers in government organizations. In addition, the lack of timely response to citizens and clients due to managerial and structural problems causes clients' satisfaction with government organizations to be very low.

The National Tax Administration is one of the largest government agencies in Iran, responsible for providing services to a wide range of citizens. Given the changes in government policy in the field of tax system reform, the role of this organization as the primary source of government revenue has become more prominent in the country's economy. Human resource agility can significantly impact improving effectiveness, responsiveness to taxpayers, and alignment with other government organizations in an organization of this size and with such a large volume of clients (meaning taxpayers and all clients of the organization). However, there is no documented report on the implementation of human resource agility programs in this organization, and evidence from taxpayers and clients also shows no evidence of human resource agility in the National Tax Administration. This research aims to design a human resource agility model in the National Tax Administration on the one hand and the emphasis of high-level documents on the agility of government institutions. Thus, the main research question is: what are the dimensions and components of the human resource agility model in the national tax affairs organization?

## 2 Literature

Today, organizations face very chaotic environments whose main characteristics are high levels of uncertainty, complexity, and dynamism. Organizations should develop capabilities for early detection of environmental changes and provide accurate responses, gaining new opportunities and competitive advantages to exploit them to survive in unstable environments. In this context, the concept of organizational agility has emerged as one of the critical issues that has attracted the attention of researchers and practitioners. Organizational agility is considered a dynamic capability that organizations can intentionally use to achieve and maintain competitive advantages and survive crises and changing environments [17].

Organizational agility can be considered the integration of processes, features, and organizational members with advanced technology to provide high-quality products and services, and is, therefore, very important for organizational competitiveness [22]. An organization needs the ability and agility to react to changes, make specific adjustments, and strengthen its innovation ability to maintain sustainable performance and competitiveness in the face of market turbulence, competitor challenges, and the destructive effects of the pandemic. However, many organizations cannot use valuable resources to achieve strategic competitiveness. Therefore, organizations must increase their agility levels by implementing scenarios in uncertain conditions [33]. Human resource agility describes how innovative people and agile teams optimize their business processes, evolve strategy with clear and decisive new commitments, and quickly adapt the organization to capitalize on new opportunities [16, 21]. In today's digital economy, the only truly sustainable competitive advantage is the speed with which an organization can sense and respond to the needs of its customers. The strength is delivering value in the shortest time, sustainable production, rapid evolution and implementation of new strategies, and reorganization to address emerging opportunities better. The agility of human resources is vital to respond to challenges adequately. Human resource agility competence is very effective in bringing the power of a coherent system to support the opportunities and threats of the digital age [13].

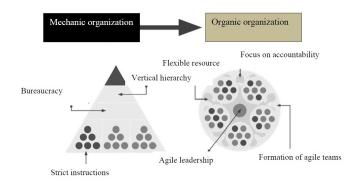


Figure 1: Human resource agility based on the organic view of the organization [15]

Government organizations often have extensive activities both inside and outside the borders. Accordingly, human resource agility is more important in government organizations than private commercial companies. In addition, government organizations have more financial and non-financial resources and, therefore, have greater access to technology, which provides the basis for the agility of human resources in government organizations [25]. Agile models emphasize technologies that enable remote work and collaboration, allowing employees to work from anywhere and collaborate with colleagues worldwide [23]. Cyber security in workforce agility strategy to protect sensitive data and ensure compliance should be considered by senior managers in government organizations. Proper workforce planning ensures that the right team is in place to adapt to changing business needs, maintain productivity, and ensure that the organization remains competitive despite environmental changes. Organizations must identify and assess these risks, develop risk management plans, and establish monitoring processes [12]. In recent decades, especially in the digital age, it has been felt that HR is in danger of being relegated to a role separate from those integrated into core business objectives. In addition, the complexities of operations with rapidly changing employment contracts have focused HR leaders on playing a critical role in increasing workplace productivity to help businesses gain an edge in the marketplace. Strategic human resource management is a process for managing human resources that links the workforce with an organization's strategies, goals, and main visions [24].

#### 3 Research background

Aali et al. [1] conducted a practical meta-analysis of human resource agility using a meta-analysis method. Based on the results, it is possible to witness the agility of human resources in the organization if attention is paid to employees' cognitive abilities and agile behaviors and the establishment of a suitable and fair payment system. Yazdan Panahi and Sheybani [30] conducted a study titled The Effect of Knowledge Management Capabilities on Organizational agility, emphasizing the role of strategic flexibility and organizational learning. The results of data analysis using the partial least squares approach indicated that knowledge management capabilities significantly affect organizational agility due to strategic flexibility and organizational learning. Yarmohammadi et al. [29] conducted a study titled Investigating the Relationship between Organizational Culture and Organizational Agility and the Mediating Role of Distributive Justice in the Healthcare Network of Khash, Iran. The results showed a positive and significant relationship between organizational culture and organizational agility, and there is a direct and significant relationship between organizational culture and distribution. Moreover, distributive justice and organizational agility had a direct relationship. Athamneh and Jais [5] showed that the capabilities provided by big data analysis improve the agility of human resources. Organizational agility is needed to identify opportunities and threats. The decision-making tools for organizational agility use their advantages to react (i.e., respond) without organizational adaptation. Idrees et al. [11] investigated the impact of senior management's perspective on human resource agility and showed that today's organizations operate in an environment that has rapid changes, which made organizational agility necessary. The decision support system in organizations is managed by strategic managers, which increases the need for organizational agility. The decision support system relates to departmental learning and agility to rapid market changes. Bestman and Alfred [6] showed that change in a fast, adaptive, and intense manner is one of the characteristics of agile human resources. Technology is one of the organization's agility options for competitive advantage. The results of business processes and organizational agility can be applied to organizations. Significant positive effects and perceived usefulness of organizational agility have been investigated.

This study aimed to design a human resource agility model in the tax affairs organization based on the government's agility policies. HR agility describes how innovative people and agile teams optimize their business processes, evolve strategy with clear and decisive new commitments, and quickly adapt the organization to capitalize on new opportunities. The strategic management of human resources is undoubtedly the most critical factor among the various factors that can affect the agility of employees. Strategic human resource management is recruiting employees, providing orientation, training, and development, evaluating employee performance, making decisions to compensate and provide benefits, motivating employees, maintaining proper relations with employees and their trade unions, and ensuring employee safety, welfare, and health measures. Human resource management deals with managerial tasks such as planning, organizing, directing, and controlling, strategic provision of human resources, training, development, and maintenance of human resources, and helps to achieve individual, organizational, and social goals [27]. Previous studies have shown that the effectiveness of strategic human resource management is directly related to improving employee agility [31]. Today, on the other hand, information technology is used as a complementary tool in human resource management. As technology advances, businesses expect more from HR professionals. HR technology provides the tools managers need to make better decisions. Data is available to everyone via network or intranet. Any employee can quickly get any details that HR inputs allow members and access all necessary information by clicking on the violation. The productivity rate of organizations has increased with technological advances [32]. Combining human resources and information technology is necessary to improve the organization's performance. Training and development of employees grow rapidly through information technology, and the interactions between the workforce and managers of the organization also increase [26].

## 4 Methodology

The current applied and quantitative research was conducted on 4000 senior and middle managers of the country's tax affairs organization who have a bachelor's degree and above, which includes the heads of tax affairs and the heads of tax groups, general managers, deputies, and experts. The selected sample size was 350 people using Cochran's method. For more certainty, 400 questionnaires were randomly distributed among the sample members, of which 376 complete questionnaires were returned, shown separately according to Table 1.

No.	Province name	General manager and deputies	Head of Tax Affairs	Head of the tax department
1	Markazi	7	23	52
2	Fars	12	48	113
3	Khorasan Razavi	11	61	153
4	Isfahan	12	66	169
5	East Azerbaijan	11	46	118
6	West Azerbaijan	8	33	72
7	Sistan and Baluchestan	8	20	40
8	Kermanshah	5	20	45
9	Kerman	10	31	74
10	Khuzestan	13	51	130
11	Mazandaran	10	38	99
12	Kurdistan	6	16	36
13	Gilan	9	35	87
14	Hormozgan	7	26	47
15	Zanjan	6	15	36
16	Hamedan	7	20	45
17	Lorestan	6	19	43
18	Chaharmahal and	5	12	26
	Bakhtiari			
19	Yazd	7	20	43
20	Ilam	5	12	27
21	Bushehr	9	25	46

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22	Semnan	7	19	39
23	Kohgiluyeh and Boyer-Ahmad	6	12	23
24	Ardabil	5	15	36
25	Qom	5	13	30
26	Qazvin	5	19	46
27	Golestan	6	20	38
28	North Khorasan	5	11	24
29	South Khorasan	6	13	27
30	Alborz	6	33	78
31	Tehran City and Tehran	83	315	743
	Province			
	Total	308	1107	2585

A questionnaire was used to collect data. The components and items of this questionnaire were rated based on a five-point Likert spectrum from very little (1) to very much (5).

The main category	Number of questions	Questionnaire source		
human resource development	1-4			
Human resources management	5-7	-		
Career design	8-12	-		
Organizational values	13-18	-		
Resiliency capabilities of human resources	19-23	-		
Adaptability of employees	24-27	-		
Structural agility	28-33	Researcher made		
Operational agility	34-36	-		
Government agility policies	37-45	-		
Organizational improvement strategy	46-54	-		
Improve occupational performance	55-59	-		
Group agility	60-64	-		
Improving organizational performance	65-69	-		

From the point of view of experts, it was used for instrument validity (content and form validity), and data collection (questionnaire), and the questionnaire was used after evaluation by professors and experts and modification of the requested items.

Table 3: Validity evaluation of the questionnaire						
Dimensions	$\mathbf{CVR}$	CVI				
Organizational values	0.65	0.83				
Organizational improvement strategy	0.69	0.88				
Improving organizational performance	0.72	0.86				
Improving employee performance	0.66	0.88				
human resource development	0.71	0.81				
Adaptability of employees	0.63	0.93				
Government agility policies	0.69	0.89				
Career design	0.78	0.87				
Resiliency capabilities of human resources	0.68	0.83				
Human resource management	0.66	0.87				
Structural agility	0.73	0.84				
Operational agility	0.77	0.85				
Group agility	0.71	0.81				

Cronbach's alpha coefficient was used for the reliability of the questionnaire, which is usually acceptable above 0.8. The reliability coefficient was calculated using Cronbach's alpha method using the data obtained from the questionnaire and the SPSS statistical software's help. The structural equation model (SEM) technique was used to analyze the data of this research. Structural equation modeling is one of the statistical methods researchers use to investigate the relationship between several variables in a model. The reason for choosing the structural equation model (SEM) for data analysis is that the structural equation model tests the simultaneous relationships between variables. Smart PLS software was used in this section according to the statistical assumptions, such as the normality or not of the data and the sample size. In the following, the analysis methods used in the research are given with the mention of formulas. Equation (4.1): Determination of the final reachability matrix

$$A + I \qquad M = (A + I)^n \tag{4.1}$$

the matrix A is the initial reachability matrix, the identity matrix, and the final reachability matrix. The operation of exponentiation of the matrix is done according to Boolean rules (Relation (4.2)). The Boolean law is as follows:

$$1 \times 1 = 1; \ 1 + 1 = 1. \tag{4.2}$$

### 4.1 Partial least squares sample size

Partial least squares can also be used when the sample is very small. Such conditions can only be used for statistical power analysis. Monte Carlo showed that this approach can be used for a sample size of less than 50. Using 27 variables, H. Weld analyzed two hidden constructs and data sets of 10 samples. However, this model still faces limitations when considering the large-scale sustainability problem.

#### 4.2 Formation of structural self-interaction matrix (SSIM)

In this step, the experts consider the criteria in pairs and respond to the pairwise comparisons based on the following. In each comparison, two criteria of letters V, A, X, and O are used based on the following definitions.

- V factor of row i causes the factor of column j to be fulfilled.
- A factor of column j causes the factor of row i to be fulfilled.
- X row and column factors make each other happen (factors i and j have a two-way relationship).
- O There is no relation between row and column operator.

	Criteria 1	Criteria 2	Criteria 3	Criteria 4
Criteria 1		V	V	0
Criteria 2			Х	А
Criteria 3				0
Criteria 4				

### 4.3 Adapting the acquisition matrix

The initial reachability matrix should be checked if  $i, j = 1, j, k = 1 \rightarrow i, k = 1$ . In other words, if criterion A is related to criterion B and criterion B is associated with criterion C, criterion A must be related to C.

#### 4.4 Determining the level of variables

In this step, the input (prerequisite) and output (achievement) criteria are calculated for each criterion, and the common factors are also determined. A criterion with the highest level of ISM is that the output set (achievement) is equal to the joint set. After identifying this variable or variables, their rows and columns are removed from the table, and the operation is repeated on other criteria.

### 4.5 Interaction network

According to the criteria levels in ISM and the relationships between them, the network of interactions is created. The first level is chosen as the most influential, and the last is selected as the most significant.

#### 4.6 Effect size in regression, structural model, and partial least squares

The size of the  $f^2$  effect is a ratio of the changes in the coefficient of determination  $R^2$  to a part of the variance of the endogenous variable that remains unexplained in the model. First, run the model entirely and write down the values of  $R^2$  to calculate this coefficient. In the next step, remove the independent variable of the path you want to calculate  $f^2$  and rerun the model. Then, put in the formula below.

$$f^2 = (R_{included}^2 - R_{excluded}^2) / (1 - R_{included}^2)$$

Based on the above relationship, it is enough to calculate the coefficient of determination once, taking into account the effect of the desired independent variable and removing this effect. According to Cohen [8], the value of this index is interpreted as 0.02 (weak), 0.15 (moderate) and 0.35 (strong). The Cochran's formula is used to estimate the sample size in qualitative variables. Cochran's formula and its components are given below.

$$n = \frac{Nt^2pq}{nd^2 + t^2pq}$$

N is the total population, t indicates the confidence coefficient, which is equal to 0.5 if the significance level of the test, and p presents the probability of a trait in society (proportion of the population with the particular trait. q donates the probability of not having a trait in the society (proportion of the population without a particular trait) = p - 1, and d shows sampling accuracy (the difference between the actual proportion of the trait in the community and the researcher's estimate for the presence of that trait in the community.

$$n = \frac{Nt^2s^2}{nd^2 + t^2s^2}$$

## 5 Findings

Structural-interpretive modeling is one of the exploratory methods of model design in management, whose initial idea was proposed by Warfield [28] and introduced by Sage [19]. The ISM approach enables experts to map the complex relationships between many elements in a complex decision-making situation. This method is an interactive learning process in which different structures are structured systematically and comprehensively. The impact of a structure on other structures is checked using this method. Therefore, it is possible to identify the structures' relationships, provide a structural-interpretive model, and finally classify the structures based on the power of penetration and the degree of dependence. The studied structures to present the basic model of human resource agility are Government agility policies (V01), organizational values (V02), employee adaptability (V03), improvement strategies (V04), operational agility (V05), group agility (V06), job performance improvement (V07), human resource resilience (V08), structural agility (V09), job design (V10), organizational performance improvement (V11), human resource management (V12), and human resource development (V13).

## 5.1 Structural self-interaction matrix

The structural self-interaction matrix (SSIM) is the first matrix in structural-interpretive modeling to identify the internal relationships of the indicators based on the experts' point of view. The matrix obtained in this step shows which variables a variable affects and which it is affected by. Symbols like Table 4 have been used to identify the relationship pattern of the elements.

Table	4: Symbols for determ	mining relationships b	etween human resources	agility variables
signs	V	Α	X	0
Relationships	Variable i affects j	Variable j affects i	Two-way relationship	Absence of relationship

The structural self-interaction matrix consists of the dimensions and indicators of the study and their comparison using four modes of conceptual relations. According to the symptoms listed in Table 5, the structural self-interaction matrix is shown in Table 5.

SSIM	C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11	C12	C13
C01		V	V	Х	V	V	V	V	V	V	V	V	Х
C02			V	А	0	V	V	V	0	V	V	Х	V
C03				А	V	0	V	А	V	А	V	0	0
C04					V	V	0	V	V	V	V	V	V
C05						А	Х	А	V	А	V	А	0
C06							V	Х	V	А	0	А	0
C07								А	V	А	V	А	0
C08									V	А	V	0	0
C09										А	Х	А	0
C10											V	А	V
C11												А	0
C12													V
C13													

Table 5: SSIM structural autocorrelation matrix of human resource agility variables

### 5.2 Formation of the received matrix

The received matrix (RM) is obtained by transforming the structural self-interaction matrix into a two-valued matrix of zero and one. In the received matrix, the principal diameter equals one, and the secondary relations must be controlled to be sure. If A leads to B and B to C, then A must show to C. In other words, when direct effects should have been included based on secondary relationships, but this did not happen in practice, the table should be corrected, and the secondary relationship should be shown. Therefore, the received matrix of human resource agility variables is presented in Table 6.

$\mathbf{R}\mathbf{M}$	C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11	C12	C13
C01	1	1	1	1	1	1	1	1	1	1	1	1	1
C02	0	1	1	0	0	1	1	1	0	1	1	1	1
C03	0	0	1	0	1	0	1	0	1	0	1	0	0
C04	1	1	1	1	1	1	0	1	1	1	1	1	1
C05	0	0	0	0	1	0	1	0	1	0	1	0	0
C06	0	0	0	0	1	1	1	1	1	0	0	0	0
C07	0	0	0	0	1	0	1	0	1	0	1	0	0
C08	0	0	1	0	1	1	1	1	1	0	1	0	0
C09	0	0	0	0	0	0	0	0	1	0	1	0	0
C10	0	0	1	0	1	1	1	1	1	1	1	0	1
C11	0	0	0	0	0	0	0	0	1	0	1	0	0
C12	0	1	0	0	1	1	1	0	1	1	1	1	1
C13	0	0	1	0	1	1	1	1	1	1	1	0	1

The final reachability matrix is obtained after the initial reachability matrix is obtained by introducing portability in the relationships of the variables. It is a square matrix; each row is one when the element has reachability to the element of any length and zero otherwise. The reachability matrix is obtained using Euler's theory, in which the proximity matrix is added to the unity matrix. Then, this matrix reaches the power of n if the matrix matrices are not changed. Therefore, secondary relationships should be controlled to be sure. Thus, if A leads to B and B leads to C, then A must show to C, and if direct effects should have been included based on secondary relationships but did not occur in practice, the table should be corrected, and the secondary relationship should also be shown. The final reachability matrix of human resource agility variables is presented in Table 7.

TM	C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11	C12	C13
C01	1	1	1	1	1	1	1	1	1	1	1	1	1
C02	0	1	1	0	1*	1	1	1	1*	1	1	1	1
C03	0	0	1	0	1	0	1	0	1	0	1	0	0
C04	1	1	1	1	1	1	1*	1	1	1	1	1	1
C05	0	0	0	0	1	0	1	0	1	0	1	0	0
C06	0	0	1*	0	1	1	1	1	1	0	1*	0	0
C07	0	0	0	0	1	0	1	0	1	0	1	0	0
C08	0	0	1	0	1	1	1	1	1	0	1	0	0
C09	0	0	0	0	0	0	0	0	1	0	1	0	0
C10	0	0	1	0	1	1	1	1	1	1	1	0	1
C11	0	0	0	0	0	0	0	0	1	0	1	0	0
C12	0	1	1*	0	1	1	1	1*	1	1	1	1	1
C13	0	0	1	0	1	1	1	1	1	1	1	0	1

Table 7: Final reachability matrix of human resource agility variables

The set of outputs includes the criterion itself and practical criteria. The set of inputs consists of the criterion itself and the effective criteria. Then, the set of bilateral relations of the requirements is determined. Improving organizational performance (V11) is at the first level. The variables of group agility (V06), operational agility (V05), and job performance improvement (V07) are at level two. The variables of employee compatibility (V03) and structural agility (V09) are on the third level. The variables of human resource resilience (V08) and human resource development (V13) are at the fourth level. The variables of organizational values (V02), job design (V10), and human resource management (V12) are at level five. The variables of government agility policies (V01) and improvement strategies (V04) are at level six. The final model of the levels of identified variables is shown in Figure 2. In this diagram, only the meaningful relationships of the elements of each level on the aspects of the lower level and the meaningful internal relationships of the elements of each row are considered.

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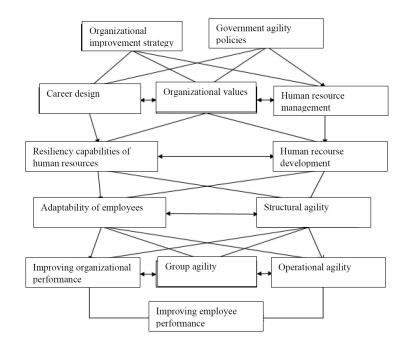


Figure 2: Human resource agility model

## 5.3 Analysis of penetration power-dependence (MICMAC chart)

In the ISM model, the interrelationships and influence between the criteria and the relationship of the requirements of different levels have been well shown, which leads to a better understanding of the decision-making space by managers. The power of penetration and dependence of the criteria are formed in the final access matrix to determine the essential criteria.

Research variables	The degree of dependence	Influence power	Level
Government agility policies (V01)	2	13	6
Organizational values (V02)	5	11	5
Adaptability of employees (V03)	9	6	3
Improvement strategies (V04)	2	13	6
Operational agility (V05)	12	4	2
Group agility (V06)	12	4	2
Improving job performance (V07)	12	4	2
Resilience of human resources (V08)	7	8	4
Structural agility (V09)	9	6	3
Career design (V10)	5	11	5
Improving organizational performance (V11)	13	1	1
Human resource management (V12)	5	11	5
Human resources development (V13)	7	8	4

Table 8: The influence of power and the degree of dependence on human resource agility

A coordinate system can be divided into four equal parts based on the strength of dependence and influence of variables. This research included a group of variables in the motivation sub-group, which has a high impact and low dependence. In the following category are the dependent variables, which are the results of the product development process and are less likely to become the background of other variables.

#### 5.4 Validation of the model with the partial least squares method

The partial least squares technique was used to validate the model. The results of running the model in the standard estimation mode show the direction and intensity of the relationship between the variables. The output of Smart PLS software for standard estimation is presented in Figure 3. The autocorrelation method, which gives the t-statistic, was used to check the significance of the relationships of the model variables. If the value of the bootstrapping statistic is greater than 1.96, the observed correlations are significant at the 5% error level. The t-statistic and bootstrapping values to measure the significance of relationships are also shown in Figure 4.

#### 5.5 Reliability of research structures

Composite reliability (CR) and Cronbach's alpha were calculated to check the reliability of each construct. Cronbach's alpha value and composite reliability should be more than 0.7. Cronbach's alpha of all variables was more significant than 0.7, and the reliability was confirmed. The combined reliability value (CR) is also more significant than the threshold of 0.7 in all cases.

## 5.6 Internal research model (hypothesis testing)

The relationship between the investigated variables in each research hypothesis was tested based on a causal structure with the PLS partial least squares technique. In the output model of the Smart PLS software, a summary of the results related to the standard factor load of the variables is presented. The t statistic and bootstrapping value to measure the significance of relationships are also shown in Figure 4.

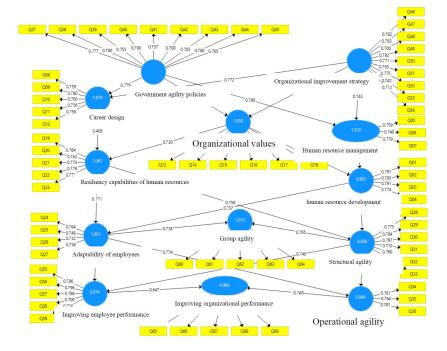


Figure 3: Model validation output with partial least squares method

## 5.7 Internal fit

## 5.7.1 From the coefficient of determination index

The coefficient of determination index  $(R^2)$ , Predictive relevance index  $(Q^2)$ , and effect size  $(F^2)$  were used to check the fit of the internal part.

## 5.7.2 The predictive power of the model with the $Q^2$ index

The predictive relevance index was introduced by Stone and Geisser and is calculated by the blindfolding method. If the value of  $(Q^2)$  is positive, the model has good predictive power. The index  $(Q^2)$  is reported in Table 9.

Based on the results of Table 9, the index  $(Q^2)$  is positive, so the model has a good predictive ability.

### 5.7.3 Effect size

The effect size  $(F^2)$  is the changes the independent variables have on the dependent variables. This index shows how much changes will be made in the dependent variable if an independent variable is removed. The values of 0.02 (weak), 0.15 (medium), and 0.35 (large) are considered. The effect size values are presented in Table 10.

The effect size was not less than 0.02 in any of the cases and was estimated to be between medium and robust in all cases.

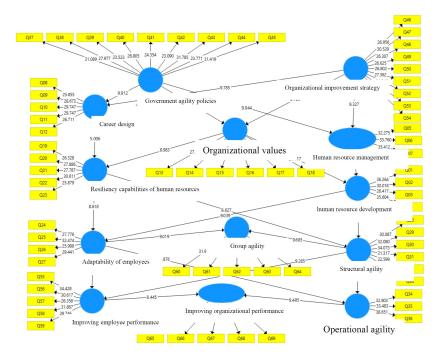


Figure 4: Significance of relationships between variables using partial least squares method

Table 9	Prediction	power	of the	model	

Main structures	$Q^2$
Organizational values	0.422
Improving organizational performance	0.365
Improving employee performance	0.399
human resource development	0.368
Adaptability of employees	0.373
Career design	0.399
Resiliency capabilities of human resources	0.402
Human resource management	0.406
Structural agility	0.368
Operational agility	0.377
Group agility	0.398

Table 10: Effect size of research constructs

Relationship	Effect size $(F^2)$
Organizational values	0.180
Improving organizational performance	0.052
Improving employee performance	0.391
human resource development	0.042
Adaptability of employees	0.171
Career design	0.112
Resiliency capabilities of human resources	0.107
Human resource management	0.321
Structural agility	0.278
Operational agility	0.0964
Group agility	0.386

# 6 Discussion and conclusion

The present research aims to design a model for human resource agility in the National Tax Administration based on government agility policies. The study results showed that government agility policies positively and significantly impact human resource management, organizational values, and job design. The results show that since the National Tax Administration is a government agency, its internal policies directly follow the overall government policies. In other words, this finding shows the importance of senior government managers' attention to human resource agility, which is perhaps why the agility plan has been on the agenda of governments in the past decade. Other researchers have also pointed to the importance of government agility policies.

The findings also showed that the organizational improvement strategy positively and significantly impacts organizational outcomes. Considering the identified indicators for organizational outcomes (increasing the effectiveness of human resource processes and systems, increasing the efficiency of human resource processes and systems, and human resource management intelligence and awareness), it can be said that a combination of organizational restructuring strategies and a focus on individual employee development can improve human resource productivity and effectiveness. The results show that the strategy used to enhance internal organizational conditions improves overall organizational performance and has individual outcomes such as increased commitment and motivation. The results indicate the importance of continuous improvement of organizational processes and emphasis on strategic organizational improvement planning, which leads to increased teamwork, synergy, and group cohesion and integration. Therefore, senior managers' strategic view on the issue of human resource management is essential. The results are consistent with Yazdan Panahi and Sheybani [30] and Athamneh and Jais [5] findings. Human resource agility is impossible without a strategic mindset among human resource management managers. Strategic human resource management is a process for managing human resources that links the workforce with an organization's core strategies, goals, and visions. An effective human resource management system will ensure that the financial and non-financial resources necessary to make the workforce agile are provided, thus creating the conditions needed for improving employee agility. This finding is consistent with Yarmohammadi et al. [29] and Idrees et al. [11]. The results show that valuing, ethics, adaptability, being active, focus and flexibility, and professionalism (identified as indicators of organizational values) lead to human resource development and improve employees' ability to adapt to new conditions. The results are somewhat consistent with the findings of Aali et al. [2].

The results of the study showed that job design has a significant impact on human resource resilience. Human resource agility is closely related to job design and the job characteristics assigned to the employee. If the job is meaningful to the employee, their level of involvement will increase, and they will be more motivated to do their work quickly and effectively.

A good compensation system is also a factor that motivates employees to respond quickly to needs. Human resource agility is not simply a matter of following instructions from senior managers. The individual characteristics of the employees, such as ethics and adaptability, also play a role in achieving human resource agility. Ciampi et al. [7] also pointed to the importance of job design. One of the main tasks and processes in the human resource cycle is human resource development, which deals with issues such as creating a dynamic organization and using training and learning opportunities for employees to improve organizational, group, and individual performance. Human resource development can be defined as the process of developing and stimulating human skills through organizational development and employee training and development for performance. Human resource development strategies can improve structural agility and employee adaptability. These findings are consistent with those of Zhang et al. [33].

Increased resilience leads to individual growth and better self-management skills and knowledge. Organizational resilience is an organization's ability to anticipate, avoid, and positively adjust to disruptions and environmental changes. This ability combines the organizational capacity to restore efficiency after disruption and create the necessary capabilities before responding to a crisis. This finding shows that in addition to overall organizational agility, employee resilience also leads to increased effectiveness of improvement strategies. In explaining this finding, it should be stated that strategy is not limited to the issue of "formulation"; rather, the success or failure of a strategy largely depends on the "implementation" stage, which is also directly affected by the performance of the workforce. The results show the high importance of employee adaptability in creating an agile workforce and, more importantly, an agile organization. Job fit refers to the degree of psychological, technical, and professional fit of an individual with the environmental, organizational, and job requirements that he or she faces. Job fit describes the behaviors that lead to successful job performance and a positive attitude toward a new job. The better the job design and the more the job description matches the job requirements, the higher the job fit. Employees who can adapt to change do not get discouraged easily. They are usually more creative than the average employee. Employees are looking for employees who can demonstrate strong adaptability skills. Zhang et al. [33] also pointed to the importance of employee adaptability in organizational agility. Based on the findings, the following recommendations are made for designing a human resource agility model based on government agility policies in the National Tax Administration.

Regarding the organizational improvement strategy, it is suggested to the managers of the National Tax Administration to increase the level of supervision and review of intra-organizational units. It is also recommended that in line with the government's agility policies, a goal and vision for agility be defined for each year, and actions be directed towards achieving this goal. Regarding human resource development, it is suggested that the managers of the National Tax Administration pursue employee training and development programs more seriously and purposefully. Many of the training courses are merely ceremonial; therefore, it is strongly suggested that employees' skills and technical knowledge be improved by employing experienced trainers, experts, and retirees. The following recommendations are also made to managers: Regarding government agility policies, it is recommended that the managers of the National Tax Administration request more budget from their superior government agencies for automation and human resource agility. Presenting expert plans to the Cabinet and requesting a budget for implementing these programs can be an efficient and effective solution for human resource agility.

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