Designing the Human Resources Development Model of Electronic Government with an Administrative Health Approach (In the Administrative Organization of Mazandaran Province)

Mohammadhasan Moeinkochaksaraeii[1], Mehrdad Matani[2*], Masoud Yousefzadeh[2], Shayesteh Varedi[2]

1. PhD student, Department of governmental management, Qaimshahr Branch, Islamic Azad University, Qaimshahr, Iran.
2. Assistant Professor, Department of Management, Qaimshahr Branch, Islamic Azad University, Qaimshahr, Iran.

Purpose: Considering the importance of human resources in e-government and emphasis on administrative health, the aim of this study was to design a model for the development of human resources in e-government with an administrative health approach.

Methodology: The present study was applied in terms of purpose and mixed (qualitative and quantitative) in terms of implementation method. In the qualitative part, the research community was experts and managers of government organizations in the field of policy making in Mazandaran province, and according to the principle of theoretical saturation, 17 of them were selected by targeted sampling methods. In the quantitative part, the research community was the employees and administrative managers of government organizations in Mazandaran province, according to Cochran's formula, 303 of them were selected by multi-stage cluster random sampling. The research tool was a semi-structured interview in the qualitative part and a researcher-made questionnaire (84 items) in the quantitative part, whose psychometric indicators were checked and confirmed. Qualitative part data were analyzed by coding method in Maxqda software and quantitative part data were analyzed by exploratory factor analysis and structural equation modeling methods in SPSS and Lisrel software.

Findings: The findings of the qualitative section showed that for the development of e-government human resources, there are 5 components of professional development, social cultural development, organizational development, individual development and educational development, and for administrative health there are 7 components of institutional unity, manager's influence, consideration, constructiveness, resource support, morale and emphasis. Scientifically identified. Also, the findings of the quantitative section showed that the factor load and the average variance of the extracted components were higher than 0.50 and their reliability with Cronbach's alpha method was higher than 0.70. In addition, the human resources development model of e-government had a good fit with the administrative health approach, and administrative health had a positive and significant effect on the development of human resources of e-government, administrative health on its seven components, and the development of human resources of e-government on its five components($P<0/05$).

Conclusion: According to the results of the present study, for the development of e-government human resources, it is possible to provide the basis for the realization of administrative health through the components identified for it, including institutional unity, manager's influence, considerateness, creativity, resource support, morale and scientific emphasis.

∗ Corresponding Author: mehrdadmatani@yahoo.com

1. Introduction

Today's organizations face a lot of acceleration, complexity, change and transformation, and if they do not adapt themselves to the changing conditions, they cannot perform properly in these conditions and face many problems. One of the important and significant solutions for adapting organizations to the conditions is development Human resources(Lima and Galleli, 2021). The progress and survival of society depends on the effective performance of organizations, and among the factors influencing the performance of organizations, human resources is one of the most valuable organizational assets and the rarest resource in the knowledge-based economy, which can create a competitive advantage for the organization(Chams and Garcia-Blandon, 2019). Human resources are the most important and sensitive main resources of any organization, which can be both the cause of the organization's success and the cause of the organization's failure(Veitch, 2018). Undoubtedly, the human resources are loyal, satisfied, happy, compatible with the goals and values of the organization and tend to maintain the membership in the organization(Chen and Cui, 2022). The development of human resources means creating the necessary capacities in employees to empower them to create added value in the organization and play a role in the organization with double efficiency and effectiveness, and its purpose is to create scientific awareness and improve the level of knowledge of employees, improve the capabilities of employees, update information and develop Knowledge and skills(Mehdizadeh Rostam, Ashayeri Nasab and Karami, 2021).

One of the important issues in e-government is the development of human resources of e-government, which in recent decades, the necessity of its application and implementation or the use of modern electronic technologies by organizations has been discussed and examined a lot(Burlacu, Alpopi, Mitrita and Popescu, 2019). Today, information and communication technology has penetrated all departments of organizations and even the most important resource of the organization, i.e. human resources, has not been unaffected by this influence, and this variable has caused organizations to have a comprehensive and complete view of their resources (especially human resources). and make extra efforts to improve it(Verkijika and Wet, 2018). The use of electronic resources, especially the Internet, in the work environment has caused changes in the organization, and human resource management in this field should be able to provide the necessary skills and training for their efficient use(Santa, MacDonald and Ferrer, 2019). E-government human resources development is a response to today's human resources challenges and problems, and human resources can become more flexible, more cost-effective, more customer-oriented, and more strategic by using Internet-based technologies. In addition, this structure is a way to implement strategies, policies and practices of human resources in organizations through a guided and informed support using channels based on Internet technology(Alipour, Nargesian, Boudlaie and Mohammadi Moghadam, 2020). One of the problems of today's organizations is the increase in administrative costs and other organizational costs. Many organizations, especially large organizations, use e-government to reduce costs and manage affairs better, which plays an important role in improving the performance of employees and increasing their effectiveness(Osman and Zablith, 2021). Electronic government, as a new service approach, is a response to environmental challenges and adaptability to the new business world, which has received the attention of government administration in the age of information and communication technology(Klabi, Mellouli and Rekik, 2018). Electronic government is the application of information technology (hardware, software, communication devices, network, etc.) to provide public services and information to citizens, businesses and governments electronically(Khoram, Asadi and Dorniani, 2022). Electronic government means the government's use of electronic facilities, especially Internet-based applications, to increase access and provide government information and services to citizens, business partners, employees, and other individuals and organizations(Reissig, Stoinescu and Mack, 2022). Electronic government is a government without walls and buildings and with virtual organizations that provide government services to citizens in a timely manner, and the creation of this government causes the reduction of government costs, quick information by people, reduction of administrative corruption, greater transparency of organizational affairs, and increased responsibility. Adaptability of employees and continuous improvement of organizational processes(Adjei-

Bamfo, Maloreh-Nyamekye and Ahenkan, 2019). Such a government seeks to intensify or generalize information technology to provide public services, improve administrative effectiveness and promote democratic values(Sundberg, 2019). The establishment of human resources in e-government requires the support of the private sector, information and communication technology infrastructures, the quality of the electronic human resources management system, the attitude towards the development of electronic human resources and ease of use of the system(Alipour et al., 2020). The most important goals of e-government include providing better and more services at a lower cost, more effectiveness, providing integrated services, providing faster services, providing personal services with added value, eliminating the digital divide and developing technology, and the most important features of e-government include accountability, Being small is tied to being ethical, being accountable, and being transparent(Osman, Anouze, Irani, Lee, Medeni and Weerakkody, 2019). One of the advantages of e-government is that citizens receive services without going to government agencies, and this avoids face-to-face contact between citizens and employees, which is one of the factors that cause administrative corruption in government agencies. Therefore, the use of electronic services cuts off the way of abuse, embezzlement and special thefts and will greatly help the health of administrative devices and reduce injuries and anomalies(Dheri, Kuenzig, Mack, Murthy, Kaplan, Donelle and et al, 2022). Administrative health and its realization have long been considered as an important and fundamental issue in all organizations, and achieving it as a common goal has been considered and it means compliance with the principles, laws, regulations and ethical standards in the organization(Shakiba, Mehrban Ghahfarrokhi and Madani, 2020). Today, administrative health is very important in organizations, and a healthy organization is an organization that not only continues, but also adapts itself to changes and developments in the environment over a long period of time, and improves and develops its capabilities and the quality of services provided. It forgives and expands(Peng, Sundararajan, Williamson, Minty, Smith, Doktorchik and Quan, 2018). Administrative health is a situation where all the agents of the organization have the ability to meet the goals of the organization and can identify deviations from administrative and legal norms and obstacles to organizational goals as soon as possible and take necessary and timely measures to eliminate them(McLeod, Bharadwaj, Epp and Waldner, 2018). Organizations with administrative health stabilize work processes and increase their efficiency and effectiveness by improving the physical, mental and social condition of employees(Tran, Nemnom, Lampron, Matar, Vaillancourt and Taljaard, 2019). Administrative corruption is considered the opposite of administrative health, and the most important types of administrative corruption include the abuse of government powers for personal gain in the form of embezzlement, fraud, party-playing, injustice, blackmail, creating dissatisfaction for clients, stealing organization property, and selling or disclosing information. It is confidential to the organization(El-Masri, Bornais, Omar and Crawley, 2020). Few researches have been done about the development of human resources of e-government with the administrative health approach. For example, Pedawi and Alzubi (2022), while researching the effects of e-government policy on the management of health systems, reported that e-government policy has a significant impact on administrative health and social support moderates the relationship between e-government policy and job insecurity. Panahi and Abbasi (2021) concluded in a research that the development of e-government to improve the health of the administrative system from the perspective of university employees included the components of legalism, transparency, electronic systems, internal monitoring and control system, accountability, financial administrative discipline, and consumption model training. Imani, Gholipour, Azar and Pourezzat (2019) introduced the components of the human resource supply system in order to improve administrative health, including 67 concepts in 6 main themes and 16 sub-themes; so as to include the main themes of transparency(with 3 sub-themes of clarification of regulations, actions and procedures, notification of regulations, actions and procedures and documentation of actions and procedures), accountability (with 2 sub-themes of responsibility for actions, justification of actions), meritocracy (with 4 sub-themes of meritocracy, meritocracy merit selection and appointment), justice-oriented (with 3 sub-themes of fair procedures, non-discrimination in procedures and non-partisanship in procedures), law-oriented (with 2 sub-themes of compliance of procedures with laws and

revision and improvement of regulations and procedures) and internal control (with 2 The sub-themes were lack of focus in decision-making and control and preventive procedures). Ud Din, Cai Xue, Abdullah, Ali, Shah and Ilyas (2017) while conducting a research on the role of information and communication technology and e-government in the administrative health sector, reported that the use of e-government in the health sector is in its infancy and few people use information and communication technology for They are used for medical purposes and more awareness is needed. Another important point is that the facilitating conditions for the adoption of e-government in the health sector include infrastructure, electricity, proper working relationships and maintaining privacy and confidentiality of information, which should increase efficiency, transparency and accountability in this field. Rezaei and Yacoubi (2016) conducted a research on the new e-government model to reform the administrative system and provide public services and concluded that one of the most important challenges that governments have always faced is responding to the changing demands and expectations of citizens. In order to respond to them, the government should search for new methods that bring continuous innovation in providing public services to citizens. The use of information and communication technology to provide government services to society, which is referred to as electronic government, is a new initiative that aims to provide citizens with access to public services through electronic media and to reform the administrative system and improve its health. The third principle of the Constitution of the Islamic Republic of Iran obliges the government to establish a correct administrative system and eliminate unnecessary organizations, and in this direction, continuous and numerous efforts have been made by the relevant authorities to reform and make the government structure more efficient. In this regard, the Supreme Administrative Council, in its 162nd meeting dated 14/12/2013, in order to realize the general policies of the administrative system, notified the leader to the proposal of the vice president for the development of management and human capital, that the operational plan for the reform of the administrative system in 2013 was approved in 26 Adjusted and approved clause. Therefore, it is necessary that different organizations seek to improve their status according to the administrative health approach, and in this regard, it is necessary to design and adjust programs for the development of e-government human resources with the administrative health approach, and before such an important activity, researches about It should be done that the current research was designed and implemented with the same goal. As a result, the aim of this study was to design the human resources development model of e-government with an administrative health approach.

2. Methodology

The present study was applied in terms of purpose and mixed (qualitative and quantitative) in terms of implementation method. In the qualitative part, the research community was experts and managers of government organizations in the field of policy making in Mazandaran province, and according to the principle of theoretical saturation, 17 of them were selected by targeted sampling methods. In this sampling method, experts and managers were selected according to criteria such as having information on the development of e-government human resources with an administrative health approach, at least a master's degree, at least 5 years of work experience, willingness to participate in research, and agreement to record interviews. In the quantitative part, the research community was the employees and administrative managers of government organizations in Mazandaran province, in which there are 10 government organizations including Education Organization, Social Security Organization, Engineering System Organization, Environmental Protection Organization, Road and Urban Development Organization, Municipalities Organization, Shahid Foundation Organization and veterans' affairs, water and sewage organization, electricity organization and crisis management organization with a community size of 1434 people were present. Therefore, according to Cochran's formula, 303 of them were selected by multi-stage cluster random sampling method. In this sampling method, first, five organizations were randomly selected from different organizations, and a number of units were randomly selected from each organization, and all employees of those units were selected according to criteria such as minimum bachelor's education and willingness to participate in the research.

In this study, in addition to the demographic information form including gender, age, education and work experience, two main tools were used for each of the qualitative and quantitative sections; So, in the qualitative part, semi-structured interview was used and in the quantitative part, researcher-made questionnaire was used. In the qualitative part, a semi-structured interview was used, the questions of which were designed based on theoretical principles and with the help of supervisors and consultants (Table 1).

Table 1. Interview questions

question	row
In your opinion, how should the human resources development model of e-government be with the administrative health approach?	1
In your opinion, what characteristics should e-government human resources development have?	2
In your opinion, what are the characteristics of the administrative health approach? (Explain)	3
In your opinion, what does administrative health mean and what indicators does it have?	4
In your opinion, what are the characteristics and indicators of human resources development of e-government?	5
In your opinion, what are the human resources solutions of e-government with administrative health approach?	6

It should be noted that the validity of the findings obtained from the interview was confirmed by the triangulation method and its reliability was calculated by the agreement coefficient method between two coders for the development of human resources of e-government and administrative health as 0.79 and 0.80 respectively. Also, in the quantitative part, a researcher-made questionnaire with 84 items was used to respond to each item on a five-point Likert scale from completely disagree with a score of one to completely disagree with a score of five. The face validity of the researcher's questionnaire was confirmed by experts and its total reliability was calculated by Cronbach's alpha method for the development of human resources of e-government and administrative safety, respectively, 0.91 and 0.86.

The research implementation process was such that after approving the proposal and studying the theoretical foundations and designing interview questions with the cooperation of supervisors and consultants, experts were identified to conduct interviews. For the experts, the importance and necessity of the research was expressed and after the researcher's commitment to observe the ethical points and considerations, the experts gave their consent to record the interviews, and then the necessary coordination was made with them about the place and time of the interview, and as it was coordinated with them, The demographic information form was completed by them and the interviews were conducted, and the interviews continued until the new samples could not add new findings to the previous findings. While taking notes of the interviews, the researcher recorded all the interviews for review and the average duration of the interview with each of the experts was about 40 to 60 minutes. After completing the interviews and their analysis, a questionnaire was designed and then sampling was done among the employees and administrative managers of government organizations in Mazandaran province. For them, the importance and necessity of the research was expressed, and after the researcher's commitment to comply with the ethical points and considerations, they also expressed their consent to complete the research tool, and then they were also asked to fill in the form of demographic information and a researcher-made questionnaire accurately and answer completely. Qualitative part data were analyzed by coding method in Maxqda software and quantitative part data were analyzed by exploratory factor analysis and structural equation modeling methods in SPSS and Lisrel software.

3. Findings

In this section, descriptive findings and then inferential findings are reported. In Table 2, the number and percentage of gender, age, education and work history of the samples of both qualitative and quantitative sections were reported.

Table 2. Number and percentage of demographic information of samples of both qualitative and quantitative sections

Quantitative section		Qualitative section		level	variable
Percent	Number	Percent	Number		
77/56٪	172	71/64٪	11	Man	gender
23/43٪	131	29/35٪	6	female	
54/46٪	141	65/17٪	3	31-40 years	Age
36/30٪	92	59/70٪	12	41-50 years	
10/23٪	70	76/11٪	2	Above 50 years	
17/50٪	152	00/00٪	0	Bachelor's degree	education
66/33٪	102	٪76/11	2	Master's degree	
17/16٪	49	24/82٪	15	Doctoral degree	
15/18٪	55	00/00٪	0	1-5 years	Work Experience
46/20٪	62	٪76/11	2	6-10 years	
77/22٪	69	53/23٪	4	11-15 years	
79/20٪	63	41/29٪	5	16-20 years	
82/17٪	54	29/35٪	6	Above 20 years	

In Table 3, the coding of the e-government human resources development model with the administrative health approach was reported, based on which, for the development of e-government human resources, there are 5 dimensions of professional development, cultural-social development, organizational development, individual development, and educational development, and 7 dimensions of unity for administrative health. Institutional, manager's influence, thoughtfulness, constructiveness, resource support, morale and scientific emphasis were identified.

Table 3. Coding model of e-government human resources development with administrative health approach

The number of objects	Component	dimension
5	Professional development	Development of human resources of electronic government
5	Cultural-social development	
12	organizational development	
10	Individual development	
8	Educational development	
7	Institutional unity	
5	Manager influence	
5	considerateness	
5	construction	
5	Resource support	
9	spirit	
8	Scientific emphasis	

The presuppositions of the exploratory factor analysis showed that according to the Kolmogorov-Smirnov test, the normality assumption of the variables was not rejected due to non-significance at a level greater than 0.05. Also, the KMO statistic with a value of 0.99 and Bartlett's sphericity statistic with a value of 646789.06 were significant at a level smaller than 0.001, which indicated the sufficient correlation and adequacy of the samples. In Table 4, exploratory factor analysis was reported for the human resources development model of e-government with the administrative health approach, based on which the factor loading and average variance extracted of the components were higher than 0.50 and their reliability with Cronbach's alpha method was higher than 0.70.

Table 4. The results of exploratory factor analysis for the human resources development model of e-government with administrative health approach

Cronbach	AVE	factor load	Correlation with total score	Component	dimension
76/0	61/0	71/0	33/0	Professional development	Development of human resources of electronic government
75/0	56/0	88/0	43/0	Cultural-social development	
87/0	52/0	58/0	38/0	organizational development	
81/0	52/0	82/0	44/0	Individual development	
77/0	52/0	70/0	40/0	Educational development	
77/0	55/0	80/0	36/0	Institutional unity	Administrative health
79/0	58/0	84/0	42/0	Manager influence	
81/0	56/0	82/0	43/0	considerateness	
87/0	77/0	80/0	38/0	construction	
81/0	51/0	52/0	44/0	Resource support	
74/0	60/0	92/0	40/0	spirit	
77/0	59/0	80/0	38/0	Scientific emphasis	

The fit indices of the e-government human resources development model with the administrative health approach showed that the goodness of fit index (GFI) with a value of 0.94, the adjusted goodness of fit index (AGFI) with a value of 0.93 and the adjusted goodness of fit index (CFI) with a value of .92 0 because it was greater than 0.90 and the root mean square error of estimation (RMSEA) index with a value of 0.08 because it was smaller than 0.10 indicated the appropriate fit of e-government human resources development with the administrative health approach. In Figure 1 and Table 5, the modeling of the structural equations of the e-government human resources development model with the administrative health approach was reported, based on which administrative health is based on the development of e-government human resources, administrative health is based on its seven components (institutional unity, manager influence, deliberation, construction , resource support, spirit and scientific emphasis) and human resources development of e-government had a positive and significant effect on its five components (professional development, cultural-social development, organizational development, individual development and educational development) (P<0.05).

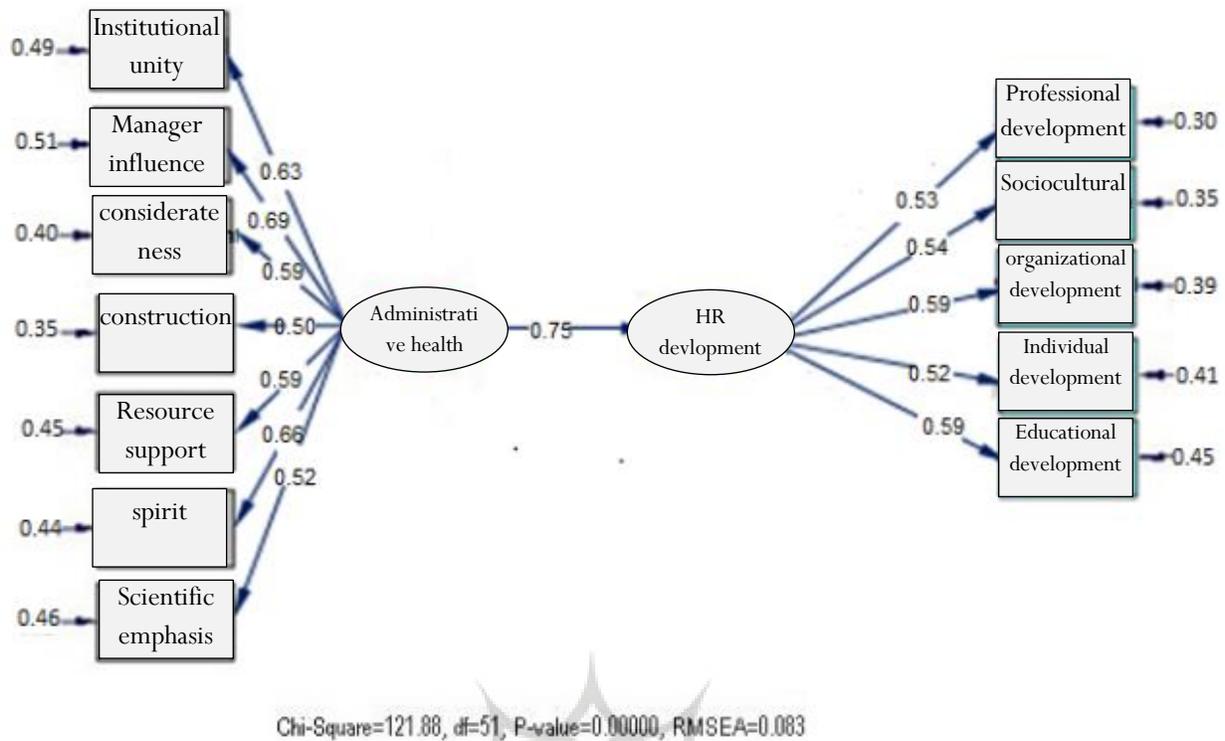Chi-Square=121.88, df=51, P-value=0.00000, RMSEA=0.083

Figure 1. Modeling structural equations of e-government human resources development model with administrative health approach in path coefficient mode

Table 5. Modeling structural equations of human resources development model of e-government with administrative health approach

meaningful	t statistic	Path coefficient	way	
05/0<	58/9	63/0	Institutional unity	
05/0<	50/8	69/0	Manager influence	
05/0<	29/7	59/0	considerateness	
05/0<	24/8	50/0	construction	Administrative health
05/0<	39/8	59/0	Resource support	
05/0<	19/9	66/0	spirit	
05/0<	64/8	52/0	Scientific emphasis	
05/0<	90/7	53/0	Professional development	
05/0<	60/8	54/0	Cultural-social development	
05/0<	65/9	59/0	organizational development	Development of human resources of electronic government
05/0<	29/8	52/0	personal development	
05/0<	90/9	59/0	Educational development	
05/0<	74/12	75/0	Development of human resources of electronic government	Administrative health

4. Discussion

Considering the importance of administrative health and its role in the development of human resources in e-government, the purpose of this study was to design a model for the development of human resources in e-government with an administrative health approach. In this study, the findings of the qualitative part indicated that for the development of e-government human resources, there are 5 components of professional

development, cultural-social development, organizational development, individual development and educational development, and for administrative health there are 7 components of institutional unity, manager's influence, considerateness, Constructability, resource support, morale and scientific emphasis were identified. Also, the findings of the quantitative part indicated that the factor load and the average variance extracted of the components were higher than 0.50 and their reliability with Cronbach's alpha method was higher than 0.70. In addition, the human resources development model of e-government with the administrative health approach It had a good fit and administrative health had a positive and significant effect on the development of e-government human resources, administrative health on its seven components and the development of e-government human resources on its five components. The findings of this study were in line with the findings of Pedawi and Alzubi (2022), Panahi and Abbasi (2021), Imani et al (2019), Ud Din et al (2017) and Rezaei and Yacoubi (2016), which can be explained and interpreted. He said that in order to realize the identified components, the administrative organizations should act gradually according to a road map and a long-term strategic plan, and for this purpose, it is necessary to formulate an operational plan for it. The development of human resources has been one of the most important topics of management science in the past decades and has shown its undeniable importance to managers and organizational planners. Because human resources are the biggest capital of any organization and country, and the growth and development of these resources as one of the functional systems of the organization includes all activities related to training and development of employees. The development of national human resources is the responsibility and commitment of the government at high decision-making levels and includes the entire society in order to coordinate all activities related to human development, and this coordination increases the efficiency, effectiveness, competitiveness, satisfaction, productivity, knowledge, spirituality and improvement of humans. In recent years, the concept of e-government has been emphasized in the development of human resources, and this government is a government without walls and structures and has virtual organizations that provide government services to citizens in a timely manner, and the creation of e-government can, in addition to reducing government costs and receiving information by People will reduce administrative corruption, make things transparent, increase the responsibility of employees and make the improvement of trends and processes permanent. For this reason, various governments have tried to establish electronic government and show their tendency towards creating a digital environment. Also, in the framework of administrative organizations, the enjoyment of administrative health can be improved by providing healthy and valuable goods and services, and various factors are effective in making the administrative system healthy, and some of these factors are related to the structure of the administrative system, and some are related to the prevention and fight against administrative corruption. Although the prevention of administrative violations and corruption plays an important role in making the administrative system healthy, but if we pay attention to the concept of positive health, the fight against corruption is only a part of the fight and elimination of corruption, and furthermore, it is necessary to pay attention to dimensions such as the structure of the administrative system and organizational culture in order to achieve the effectiveness and efficiency of the administrative system. According to the mentioned content, it can be expected that administrative health has a significant effect on the development of human resources of e-government and can lead to its improvement. The most important limitations of this study include the limitation of the research community to the government administrative organizations of Mazandaran province, the dispersion of the workplaces of the samples and the difficulty of collecting data and the difficulty of conducting interviews and completing questionnaires due to the spread of Covid-19. Among the research proposals, we can mention conducting research in non-governmental and private administrative organizations of Mazandaran province and even other cities, and conducting research in the post-corona period, or even conducting such research by clients to organizations. According to the findings of this study, the following practical suggestions are provided. In-service training should be held in the form of various workshops to train the development of e-government human resources with an administrative health approach. The managers and deputies of the organization should be fully informed about the development of e-government

human resources with the administrative health approach and their components should be given more attention. Another suggestion is that managers should consider the components of e-government human resources development with the administrative health approach for designing strategic plans. Another suggestion is to try to improve the human resources development components of e-government with an administrative health approach through holding online training classes and workshops. Also, it is necessary to improve and promote the development of electronic human resources with an administrative health approach through the improvement of technological infrastructure, updating computer hardware and software, and expanding the width of communication and internet networks.

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Authors' Contributions

All authors contributed equally to the preparation and writing of this article.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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