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Relationship between Strategic Management of Human Resources and the Culture of Organizational Fallibility with the Mediating Role of Information Technology

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ABSTRACT

Background: Strategic human resource management is the process of linking the human resource function with the strategic objectives of the organization to improve performance. This research aims to investigate the relationship between strategic human resource management and the culture of organizational fallibility with the mediating role of technology.

Methods: The current study is descriptive-analytical. The information was obtained from the staff of Isfahan Health Center in 2022. The final sample of 120 health center personnel was recruited in this study by the total research method. The data was collected through a standard questionnaire and summarized through SPSS ver26 software. For statistical analysis, one-sample t-tests and Pearson's correlation coefficient were used.

Results: Out of 120 people in the statistical population, 31.9% were men. The correlation coefficient between strategic management of human resources and the culture of organizational fallibility was significant and p = 0.043, which shows the significance of this relationship.

Conclusion: In the strategic management of human resources based on the culture of fallibility and information technology, a direct and meaningful relationship was observed between the culture of organizational fallibility and the strategic management of human resources. It is possible to improve the organization's performance by increasing the culture of error tolerance and its positive impact on the strategic management of human resources.

Keywords: Human resources development, culture, information technology, organizations

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Introduction

Strategic management of human resources became popular in 1980 with the introduction of two models under the titles of the adaptive model and the Harvard model, which focused on the integration of strategy and human resource management. Before that, human resources management research had a more holistic approach, and all human resources tasks such as selection, training, service compensation, etc. were studied together. But under the influence of strategic management, each of these tasks found a strategic position and each was discussed separately as a strategy. Wright and McMahan consider strategic human resource management as the result of using human resources and planned activities that help the organization achieve its goals (Amina M & others., 2022). The importance of discussing the strategic management of human resources is that it is the key position and strategic role of human resources in the effectiveness and increase of organizational productivity and efficiency and the excellence of employees' performance (Kohn, N. A.,2015 & others., 2015).

According to experts, information technology is one of the most important practical tools for the preparation and successful establishment of organizational resource planning systems (Wawersik, D.,& Palaganas, J., 2022).

All economic and non-economic organizations and companies are fully aware of the benefits and necessity of using information technology. Also, all forward-looking managers who have understood the sensitivity of competition in the global market. Being global has left a place for information technology in their decisions and investments.

Applying information technology in the organization is not a choice, but an important necessity. Today, the condition of doing any work and establishing any type of communication is highly dependent on information technology, which on the one hand has increased the speed and quality of things and on the other hand has affected the organizational performance to the speed and level of success. Increase the organization in the field of competition (Baharestan, Omid., & others., 2013). On the other hand, the creation and development of information technology in any military is necessary to create a suitable cultural platform. Therefore, due to having knowledge and awareness about the structure of health record information and the flow of information in the health service delivery system, the employees of the health and treatment field can create and develop information technology in the health and treatment system and design information systems in such a way that Effectively and efficiently respond to the information needs of users, play a key role and play an essential role in the success of information systems (Aboshaiqah, A. E., 2010).

Every human resource information system is logically a list of jobs and skills available in the organization. Regarding human resources planning, it was mentioned that human resources planning is a strategic process, management information systems are also of strategic importance in the organization and it should be considered as a strategic category.

The impossibility of proper classification and lack of regular filing of all existing documents in the field of health are other reasons for the need for the health system to establish a system. Registration is based on information technology. The use of new technologies in the field of health reduces costs, accelerates the provision of services, and reduces medical errors (Haghiri, Esfandiar, & others. , 2018). However, in the process of providing services, unintentional deviation from standards (error) is inevitable, and health services are no exception to this rule; In fact, errors are unintentional actions that include slips, forgetfulness, and mistakes (Shabani Arani.,2019, Tabatabai, Mansouri.,2019, & Nabiullah., 2019). Every organization faces errors that can have negative consequences or positive effects such as learning and innovation in the organization (Shirazi, Pour., & Samira. , 2013) Human errors will never be removed and we can only reduce

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them; Therefore, deal with human errors, it is necessary to change the conditions under which people work (Gain, A., 2004). This is despite the fact that to create a culture of error prevention, organizations should try to provide an environment for employees to report their own and their colleagues' errors without fear of consequences, to achieve this goal, organizations are required to organize and manage errors the "error tolerance culture" (Abed, M., 2009). The culture of error tolerance is the concept of a logical approach to the issue of human error and the acceptance of human error. A good evaluation of the culture of error tolerance that governs an organization requires the design and implementation of effective preventive measures to reduce incidents and damages. This concept was first introduced in 1997 and with the assumption of human error was stated by James Reason in the air transport industry after that it gained its importance in dangerous industries such as the health care system (Kalra, J., Kalra, N., & Baniak, N., 2013).

Human judgments are fallible. This often contributes to an acceptance of bad projects, policies, and ideas, and a rejection of good ones. One aspect of fallibility is that an individual typically can extract only part of the decision-relevant information from the limited raw data available (Raaj. 1991)

Methods

This research was carried out in 2022 in Isfahan Health Center. The current study is descriptive-analytical.

Criteria for inclusion in the study: 1. Personnel working in headquarters units, including heads of units and experts of headquarters units 2. Referees to Health Center No. 2 in Isfahan.

Exclusion criteria: 1. Service and vehicle personnel 2. Queue personnel 3. Lack of consent to participate in the study.

In the current research, the research community and the target group are all staff personnel of the health center,(120 workers). All of them were included in the study by census method.

To collect data, the standard questionnaire on strategic human resources management, the questionnaire on the culture of organizational fallibility, and the standard questionnaire on information technology were used.

A. The standard questionnaire of strategic human resources management has 14 questions that are included in eight subscales of strategic human resources management.

The fields of this questionnaire include:

1. Strategic management of human resources
2. Equal job opportunities
3. Flexible work schedules
4. Effective employee communication
5. Training and development of human resources
6. Compensation for services
7. Careful recruitment
8. Management development.

This questionnaire is graded based on a 5-point Likert scale. The scoring method of this questionnaire is a simple Likert model, the scores of the options are: very low (1), low (2), medium (3), high (4), and very high (5).

The cut point of the questionnaire is as follows: 14 points to 42 points low and from 42 points to 70 points high.

The validity and reliability of the questionnaire can be confirmed. Cronbach's alpha coefficient for all the variables of the questionnaire is above 0.7, which shows that the questionnaire has good reliability (Mazloumi, S. S. S., Efteghar, A., & others. ,2013).

B. The standard questionnaire of the culture of organizational fallibility is a version of the Hoffmann questionnaire (Rasoulzadeh, Y., & Shirinzadeh, I.,2017) and it was presented in 2013 and is the latest in terms of being up-to-date. It is the only standard fallibility culture questionnaire in the country.

The questionnaire has 27 questions, which are included in six subscales of the culture of fallibility. The fields of this questionnaire include:

1. feedback and communication,
2. honesty in communication,

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3. balance and balance,
4. quality of the error reporting process,
5. continuous improvement,
6. trust and confidence.

The questionnaire is scored based on a 7-point Likert scale. The scoring method of this questionnaire is a simple Likert model, the scores of the options are as follows: I completely disagree (1), I strongly disagree (2), I disagree (3), I have no opinion (4), I agree (5), I strongly agree (6) and I completely agree (7).

All its items were confirmed and the Cronbach's alpha coefficient of the entire questionnaire in this research was 4.89, it was announced that the Persian Organizational Fallibility Culture Questionnaire is a suitable tool for evaluating the culture of fallibility in Iranian organizations and work environments (Rasoulzadeh, Y., & Shirinzadeh, I.,2017).

C. The Information Technology questionnaire has 41 questions. Those are included in six subscales of information technology. The fields of this questionnaire include:

1. hardware/software
2. software
3. internet or network
4. systems
5. users
6. management.

This questionnaire is graded based on a 5-point Likert scale. The scoring method of this questionnaire is a simple Likert model, the scores of the options are: completely disagree (1), disagree (2), neither agree nor disagree (3), agree (4), strongly agree (5). Its reliability was calculated and confirmed using Cronbach's alpha test, resulting in a reliability score above 70%. It has been validated as reliable, and its Cronbach's alpha coefficient was calculated at 0.782. (Darvishi, H,2013).

SPSS ver26 software was used to test the research hypotheses and questions. Regarding the statistical analysis, descriptive tests, Kolomorov-Smirnov tests, Pearson's correlation coefficient and regression coefficients, homogeneity tests, and post hoc tests were used.

Results

The results of the regression test are shown in Table 1.

Table 1. Table of regression coefficients between research variables

Model		Non-standard coefficients		Standard coefficients	t	Meaningful	Parallel status	
		B	The standard deviation	Beta			Tolerance	VIF
1	Width from the origin	.251	.341		.738	.462		
	fallibility culture	.565	.077	.559	7.319	.000	1.000	1.000

The average scores of the strategic management questionnaire and the score of the questionnaire on error-proneness culture and information technology of the personnel participating in the research are presented in Table 2.

Table 2. Descriptive strategies of research variables

Variables	mean	Standard deviation
Strategic management of human resources	2.71	0.74
Culture of fallibility	4.35	0.73
Information technology	3.27	0.56

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In this study, 31.9% of the 120 working personnel in the health center who made up the statistical population of the study were men and 68.1% were women.

The correlation coefficient between research variables is presented in Table 3.

Table 3. The correlation coefficient between research variables

Variables	Culture of fallibility	Strategic management of human resources	Information technology
Culture of fallibility	1	R = 0.56 P-value = 0.00	R = 0.244 P-value = 0.007
Strategic management of human resources	R = 0.56 P-value = 0.00	1	R = 0.248 P-value = 0.006
Information technology	R = 0.244 P-value = 0.007	R = 0.248 P-value = 0.006	1

Based on the results of Table 3, the correlations are meaningful.

Discussion

Therefore, accepting the culture of error in this organization is current and desirable. In a research conducted by a researcher (Rasulzadeh et al. 2015), it was found that there is a significant relationship between the overall score of error tolerance culture with history of errors and the number of errors reported during the research. According to University of North Carolina Distinguished Professor Philip (G. Boysen's et al. 2013), in a culture of fallibility, both the organization and its people are accountable and, in fact, accountable while focusing on risk, systems design, human behavior, and patient safety. The Results of the study were by the results of the present study.

The culture of error tolerance is a learning culture that is constantly improving and is focused on the safety of patients. According to the results of this research, managers by providing a suitable environment for employees to report their own and colleagues' errors, without fear of the consequences and also Organizing and managing errors and creating a risk management system can increase the culture of organizational error tolerance (G. Boysen's et al. 2013). The Results of the study were not the results of the present study.

The findings of another researcher (Baharestan et al. 2013) showed that in terms of performance, the strategic method in human resource management is superior to the traditional method, which is in line with the results of this research. However, the results of Gane's research in 2004 (Gane's et al, 2004) indicate the strategic management of human resources does not have a significant effect on increasing and improving the performance of companies in this country, and the use of each of the human resource management methods (strategic and traditional), does not have any preference over the other method, which is not in line with the findings of this research.

The findings of the research of Haghiri show that information technology has a positive effect on the field of health, which is consistent with the findings of this research (Haghiri et al. 2018). The Results of the study were by the results of the present study.

Based on the results of this research, by providing a suitable environment for employees to report their own and colleagues' errors, without fear of their consequences, as well as organizing and managing errors and creating a risk management system, they can act to increase the culture of organizational error tolerance. On the other hand, the role and importance of strategic management of human resources in the organization can be seen in the effectiveness and increase of organizational productivity and efficiency and the excellence of the employees' performance, and this issue can be seen in the

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performance of the organization and gaining a competitive advantage, especially in health services. It is seen that by increasing the culture of organizational error tolerance and its direct and positive impact on the strategic management of human resources, the performance of the organization will be improved (Kalra et al, 2013).

There were some limitations regarding this research. Due to space and time constraints, different results may emerge when choosing and studying other hospitals or conducting the study at different times. There were also inherent limitations of the questionnaire itself, indicating that the choice of alternative questionnaires may yield different results.

Conclusion

According to the results of the present research, it is suggested that managers take an effective step in reducing organizational errors by using new methods of strategic human resource management knowledge-based training, and updated information systems.

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Conflicts of interest

authors declared no conflict of interest.

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Ethical considerations

This research was approved by Shahrekord Azad University

Code of ethics

ID IR.IAU.SHK.REC.1401.023.

Authors' contribution

Conceptualization, M. M.; methodology, M. M data collection, MM, writing original draft, M. M.; data analysis, M. M supervision, M. M All authors read and approved the final manuscript and were responsible for any question related to the article.

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