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ORIGINAL ARTICLE

Modeling Factors Affecting the Future of Artificial Intelligence in Iranian Sports

Mahmoodreza Dakhteh[1], Habib Mohammadpour Yaghini[2*], Mohammadrahim Najafzadeh[3], Jafar Barghimoghadam[4]

1. Ph.D Student, Department of Physical Education, Tabriz Branch, Islamic Azad University, Tabriz, Iran.
2. Assistant Professor, Department of Physical Education, Tabriz Branch, Islamic Azad University, Tabriz, Iran.
3. Associate Professor, Department of Physical Education, Tabriz Branch, Islamic Azad University, Tabriz, Iran.
4. Assistant Professor, Department of Physical Education, Tabriz Branch, Islamic Azad University, Tabriz, Iran.

***Correspondence**
Habib Mohammadpour Yaghini
E-mail:mohammadpour@iaut.ac.ir

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EXTENDED A B S T R A C T

Introduction

In today's world, various industries, including the sports industry, use artificial intelligence in management and operational activities. Although this interaction between artificial intelligence and the sports industry is in its infancy, given the position that artificial intelligence has found in various industries, it is not at all far-fetched to expect that in the not-so-distant future, artificial intelligence will find a special and widely used position in the sports industry, especially in strategic management issues. Artificial intelligence has the ability to learn natural languages, perform human tasks in the form of humans (robots) and compete with the expertise and decision-making power of humans, and these conditions cause organizations to move more quickly towards competition. Considering the role of artificial intelligence in success and progress on the one hand, and on the other hand, considering that research conducted in the past has often been conducted in non-sports organizations and is different from other organizations due to the nature of management in matters that directly deal with human resources in sports organizations, and on the other hand, considering that most of the research conducted has been conducted in other countries and the situation of each country and their access to technology and artificial intelligence is different, the present study was conducted with the aim of modeling the factors affecting the future of artificial intelligence in Iranian sports, in order to fill the existing research gap and take a small step in paving the way for the future of artificial intelligence in Iranian sports.

Mothodology

The present study is applied in terms of its purpose, quantitative in terms of data type, and survey in terms of data collection method. The statistical population of the study included experts in the fields of industrial management, business economics, artificial intelligence, computer science, and sports management, as well as industrialists and sports producers, managers of private and public sports clubs, sports boards, and officials in charge of organizing competitions. The number of statistical samples was determined using JPower software as 160 people. Given that the present study is derived from a doctoral dissertation, the data collection tool in the

present study was a researcher-made questionnaire taken from the qualitative section of the dissertation. This questionnaire had 56 items and 9 components. The components of this questionnaire included technology acceptance, political factors, economic factors, inhibiting factors, social factors, infrastructure factors, educational factors, managerial factors, and the future of artificial intelligence in Iranian sports. The content and face validity of this questionnaire was confirmed using the opinions of 10 sports management and artificial intelligence experts, and its reliability was confirmed using Cronbach's alpha test after 30 research participants filled out the questionnaires (α=0.86). In the data analysis stage of the present study, the demographic characteristics of the participants were first described using frequency and frequency percentage, and then in the inferential analysis stage, the structural equation modeling test was used to examine the fit of the model and answer the research questions. All analyses in the present study were performed using SPSS version 23 and SmartPLS version 3.1.1 software at a significance level of 0.05.

Findings

In this study, the fit indices of the first-order reflective and second-order construct measurement models were used to examine the fit of the research model. To examine the fit of the first-order reflective measurement models, composite reliability indices, Cronbach's alpha, factor loadings, convergent validity (AVE), and the Fornell-Larker index (divergent validity) were used, and to examine the second-order construct fit, the variance increment index (VIF) was used. Based on the results of the study, examining the factor loading coefficients of each of the questionnaire questions showed that the factor loadings of all questions were greater than 0.4. All variables obtained Cronbach's alpha and composite reliability values higher than 0.7, the AVE index higher than 0.5, and the VIF index lower than 5, so the instrument used in this study has appropriate reliability, convergent validity, and variance increment. The AVE root mean square of all first-order variables is greater than the correlation between them, which indicates the divergent validity of the research instrument and the appropriate fit of the research model. At a 95% confidence level, based on the research results, given that the t-statistic value of all paths is greater than 1.96 and their significance is less than 0.05, it can be stated that the research model is appropriate and all paths are confirmed. Also, according to the results of this table, it can be stated that technology acceptance (p=0.001; t=3.209), economic factors (p=0.001; t=2.984), social factors (p=0.001; t=4.469), infrastructure factors (p=0.001; t=5.066), educational factors (p=0.049; t=1.970) and managerial factors (p=0.001; t=4.640) have a positive and significant effect, and political factors (p=0.005; t=2.988) with a path coefficient of -0.220 and inhibitory factors (p=0.001; t=3.036) with a path coefficient of -0.278 have a negative and significant effect on the future of artificial intelligence in Iranian sports.

Discussion and Conclusion

Based on the results of the research, it can be concluded that there are many factors that affect the future of artificial intelligence in Iranian sports in various ways, some of which positively and others negatively affect the future of artificial intelligence in Iranian sports. Therefore, it is suggested that the country's sports managers and managers who are involved in the field of artificial intelligence and its use in the country's sports provide the basis for the acceptance of technology related to artificial intelligence in the country's sports. In this regard, for example, they can examine the progress of artificial intelligence in the world and brainstorm and apply it in the field of Iranian sports, use the economic and social potentials available in the country's sports, provide the necessary infrastructure for the entry of artificial intelligence into sports, such as sports equipment and facilities to benefit from artificial intelligence and sports transportation infrastructures in the use

of artificial intelligence, provide the necessary training for the human resources and also the country's sports audience by sending students and professors to successful countries in the field of artificial intelligence to acquire and provide artificial intelligence knowledge to the country's sports, and by giving responsibilities related to artificial intelligence in sports to individuals based on expertise and meritocracy, adopt appropriate management for the use of artificial intelligence in the country's sports, and along with that, solve or reduce political problems and obstacles.

K E Y W O R D S
Artificial Intelligence, Sports, Management.