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ORIGINAL ARTICLE

Effective Factors on Improving Attitude and Intention to Use Artificial Intelligence Services in Gym Users

Reza NikBakhsh[1*], Adel Mirzaei[2], Maryam Fakhri[3]

1. Professor, Department of Sport Management, South Tehran Branch, Islamic Azad University, Tehran, Iran.
2. Ph.D, Department of Sports Management, Faculty of Physical Education and Sports Sciences, University of Tehran, Tehran, Iran.
3. M.A. Department of Sports Pathology and Corrective Movements, School of Physical Education and Sports Sciences, Payame Noor University, Tehran, Iran.

***Correspondence**
Reza Nikbakhsh
E-mail: r_nikbakhsh@iau.ac.ir

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EXTENDED A B S T R A C T

Introduction

Artificial intelligence has also emerged as an emerging phenomenon in the sports industry due to its pervasive application in various fields (Washoff et al., 2024). Many sports organizations and centers have begun to use AI to understand the needs of sports consumers and provide better solutions (Kiper et al., 2023). Using data generated through the application of AI technologies makes it easier for sports centers to do this, increases efficiency, and helps sports centers better address individual needs (Kitzman et al., 2018).

Due to these benefits, sports companies and centers continue their efforts to increase consumer and user familiarity with AI. For example, sports brands (such as Nike and Adidas) and large technology giants (such as Samsung and Apple) are investing in AI to help consumers in the sports and healthcare sectors by developing marketing strategies using AI. Therefore, connecting with sports consumers using AI is becoming an important area of research (Farokhi et al., 2021). AI can help companies interpret data accurately and facilitate data-driven learning to enhance and improve their decision-making and operations (Wang et al., 2023).

In the field of sports, AI can also help measure and analyze performance and movement, as well as provide services such as designing athletes' nutrition and training plans and acting as an artificial coach (Lu et al., 2024). In addition to helping design athletes' nutrition and training plans, AI can monitor science and technology and make many changes on the sports field. For example, in tennis, AI helps coaches design game strategies by analyzing players' characteristics, physical strength, physical ability, and playing patterns through a deep learning-based prediction algorithm (Li, 2022).

The role of AI in sports services and the attitudes of sports service users towards AI have been highlighted by the application of the Technology Acceptance Model, which considers components such as the importance of sports, perceived usefulness, and ease of use of AI-based services (Chin et al., 2022). One of the components of the Technology Acceptance Model is perceived usefulness, which is defined as the degree to which an individual believes that using a particular system will enhance his or her job performance (Lin and Bhattacharjee, 2010). Since perceived usefulness can enhance an individual's existing abilities, it is considered an important factor in technology evaluation. In addition, perceived usefulness has direct and indirect effects on attitudes towards technology use, which can have a positive effect on behavioral

intention to use technology (Akbari and Poladian, 2021; Loni et al., 2016). AI systems can increase perceived usefulness by answering questions and drawing conclusions based on the collected data, thereby providing better services to consumers (Russell and Norvig, 2021). Therefore, AI services can provide consumer-friendly suggestions that lead to positive perceptions of these services by customers (Nika et al., 2022). In this regard, Chin et al. (2022) studying users of health centers and Nagy et al. (2021) studying consumers of online stores reported that perceived usefulness has a significant positive effect on behavioral intentions and attitudes towards AI services. Ease of use is another component of technology acceptance, which is defined as the degree to which users feel that using new technologies and systems does not require significant additional physical or mental effort (Davis, 1989). Several studies have shown that perceived usefulness and ease of use are important predictors of the intention to adopt or continue to use new technologies or services (Otwell and Bryson, 2021; Chin et al., 2022). Wang et al. (2023) showed that perceived ease of use has a significant positive effect on attitudes and willingness to use AI services. Furthermore, consumers' views on the ease of use of a product can determine their attitudes towards a brand. In the field of information technology, perceived ease of use is an important variable in encouraging users to adopt or use a system (Davis, 1989).

Another component of the technology acceptance model is the importance of exercise. It is important for individuals to understand how to properly take care of their health through exercise. For example, people who prefer to exercise regularly have better mental health than those who do not (Taylor et al., 1985). Participants' perception of the importance of exercise and training is an important variable related to athletic performance (Chin et al., 2022). According to a study by Ramos et al. (2022), students who took after-school physical education classes in elementary school showed high levels of class satisfaction and intention to exercise. Furthermore, Kuo (2009) analyzed the differences in school adjustment according to elementary school children's perception of the importance of physical activity and reported that students who perceived it as important adjusted well to school. The results of these studies indicate that the perception of the importance of physical activity affects psychological satisfaction and behavioral outcomes. Many people consider exercise as a priority in their lives. To maintain this priority, it is necessary for people to use their time efficiently. Effective and correct time management is essential because people's daily lives are very busy, and time management is a task for which AI can be an effective tool. Using appropriate AI tools for time management can effectively support the user (Canales and Hoekamp, 2020). In this regard, customer data-driven training services will be an effective tool for busy people who care about exercise (Chin et al., 2022). Attitude towards using AI services refers to the user's subjective evaluation based on the latest technology or AI devices. When people perceive the benefits of using innovative technology, their attitude towards using innovative technology is positively affected. In this regard, identifying people's attitudes when introducing new technologies is essential (Mieuille, 2005).

Recently, research has been conducted on the purchase behavior of sportswear that uses innovative technology. In this study, the authors applied the technology acceptance model to smart clothing and concluded that perceived usefulness and perceived enjoyment affect adoption intention (Kang and Jin, 2007). Finally, behavioral intention includes word-of-mouth, repurchase, price sensitivity, and revisit with a comprehensive concept (Chin et al., 2022). Behavioral intention has been used as the final variable in many studies and has been particularly emphasized as the main and most decisive factor for consumers (Eltz et al., 2024). Positive evaluation of new technologies can attract more new customers. Based on these previous studies, this study investigated the intention of fitness club users to use AI services. Using the Technology Acceptance Model, this study aimed to identify factors that influence fitness club users' attitudes toward AI, especially regarding the importance of exercise and the perceived usefulness and ease of use of AI-based services. The reason for using the Technology Acceptance Model in this study is that the Technology Acceptance Model is based on the Theory of Rational Action and is used to predict and understand individual behavior (Davis, 1989).

Mothodology

The main purpose of this study was to investigate the factors affecting the improvement

of the attitude and intention to use artificial intelligence services in gym users. The present research was carried out using a quantitative method and 384 users of gym clubs in one distinct of Tehran city completed the questionnaire of the use of artificial intelligence in sports services by (Chin et al., 2022). The research constructs have variances of 0.81, 0.74, 0.61, 0.69 and 0.67 respectively and are in a desirable state. Also, the composite reliability (Dillon-Goldstein coefficient) was obtained as 0.93, 0.92, 0.86, 0.87 and 0.85 respectively, which is higher than the criterion of 0.70, indicating their acceptability. Also, the reliability of the questionnaires was obtained as 0.88, 0.88, 0.78, 0.77 and 0.75 respectively, indicating their desirability. In addition, examining the data distribution status with respect to the values obtained for skewness and kurtosis, which are outside the ±2 range, indicates that the data distribution is non-normal. Therefore, structural equation modeling with a partial least squares approach was used to test the research model.

Findings

The results of structural equation modeling with the partial least squares (PLS) approach showed that the perceived usefulness, ease of use and importance of exercise have a positive significant effect on the attitude towards the use of artificial intelligence services. Also, the attitude towards the use of artificial intelligence services has a positive significant effect on the intention to use artificial intelligence services. Considering the regression coefficient of 0.15 and the critical ratio of 2.47, which is outside the range of ±1.96 (based on the five percent error rule in the region of rejection of the null hypothesis for values outside the range of 1.96 to -1.96 for each model parameter), it can be said that perceived usefulness has a significant positive effect on the attitude towards using AI services. Also, considering the regression coefficient of 0.14 and a significance level of less than 0.05, ease of use has a significant positive effect on the attitude towards using AI services. In addition, the importance of exercise has a significant positive effect on the attitude towards using AI services with a regression coefficient of 0.51 and a significance level of less than 0.05. Finally, the attitude towards using AI services has a significant positive effect on the intention to use AI services with a regression coefficient of 0.73 and a significance level of less than 0.05.

Discussion and Conclusion

Therefore, with the increasing role of AI in sports, it is suggested that fitness clubs be developed in the field of hardware and software using AI. AI behaves and thinks in an ideal way or in a way similar to humans and constantly adapts to the environment to perform tasks just like a human, which leads to tasks that are usually performed by humans becoming more efficient and effective. As a result, people can make better use of their time and use resources for other tasks.

K E Y W O R D S

Attitude, Intention to Use, Artificial Intelligence Services, Gym Users.