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Modeling and explaining the factors affecting sports applications in the development of organizational sports (Case study: Ahvaz city)[1]

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Abstract

Background and Objective: The development of organizational sports (such as in Ahvaz Drilling Company) is a strategic necessity, not a welfare activity; as it directly affects the productivity, health and reduction of absenteeism of employees. Currently, the lack of a scientific model to understand the factors affecting this development in the local context of Iran has caused the failure of programs and waste of resources. Therefore, accurate modeling of these factors (infrastructure, culture and managerial support) is a fundamental step to develop and implement sports programs based on scientific evidence and tailored to the local needs of employees.

Methodology: In this regard, the main purpose of the present study is to investigate the factors affecting sports applications in the development of organizational sports, employees of Ahvaz City Drilling Company. The statistical population of the present study was 100 people selected as a statistical sample using Morgan's formula and studied. Data analysis was carried out through correlation analysis and structural equation modeling using SPSS and Smart PLS software.

Results and Findings: The results of confirmatory factor analysis (CFA) indicate a favorable overall fit of the organizational sports development model, as most sub-indices with factor loadings higher than 0.5 confirm the reliability and structural validity of the model for the five main factors (management, infrastructure, social, economic, and individual). This finding proves the strong ability of the model to measure the desired constructs. However, factor loadings with lower explanatory power were observed in some specific dimensions (such as investment sub-indices and some coach competencies), which indicates the need to strengthen and measure these dimensions more accurately in future research to increase the validity of the model in those areas. Also, divergent validity was successfully confirmed based on the Fornell and Larker criterion, which indicates complete conceptual distinction and independence between the five main factors of the model.

Keywords: Sports, sports development, sports application, PLS interpretive structural modeling, National Iranian Drilling Company, Ahvaz city.

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EXTENDED ABSTRACT

Introduction:

As a deep-rooted and multifaceted phenomenon, sports and physical activities play a vital role in individual and social dimensions, beyond recreational aspects. At the individual level, sports improve the quality of life and longevity by strengthening the immune system and preventing chronic diseases, and psychologically, by reducing stress and anxiety, they increase self-confidence and concentration. At the social level, sports activities provide a platform for interaction, solidarity, and education of human values, and contribute to the cultural advancement of society. Sports development is a comprehensive and strategic approach that aims to create the necessary opportunities and structures for public participation and success at all levels. This process is not limited to supporting championship sports, but also seeks to transform physical activity into a social necessity by expanding public sports, training expert coaches, and formulating macro policies. Sports development is actually a high-yield investment in the areas of health, education, and the economy that has the potential to achieve macro-national goals.

Achieving sports goals requires identifying environmental, economic, and local variables, because changes in public participation patterns and the emergence of new sports determine the future direction of this field. Failure in some structures is due to tasteful approaches and the use of old and ineffective programs. Therefore, developing strategic and comprehensive programs, in line with infrastructure development and integrating sports into macro policies, is an essential step to building dynamic and active societies. In high-risk industrial environments such as the National Drilling Company, sports are a strategic investment to maintain human capital and ensure operational safety. Given the high workload in this industry, the development of organizational sports helps significantly in managing stress, preventing occupational diseases, and strengthening team cohesion. Identifying managerial and structural barriers in this area allows managers to use sports from a systemic perspective, not as a cost, but as a tool to improve productivity and sustainable development of human resources.

Methodology:

This is an applied and quantitative research that was conducted using a descriptive-correlation method on a sample of 100 employees and experts of the National Iranian Drilling Company in Ahvaz; the data collection tool is a researcher-made questionnaire whose validity and reliability (Cronbach's alpha above 0.7) have been confirmed, and the data obtained from it have been analyzed using SPSS and SmartPLS software and through structural equation modeling using the partial least squares (PLS) method. In this study, sports development has been categorized and operationalized into five main dimensions including "managerial and organizational factors" (such as policy-making and specialized human resources), "infrastructural and physical factors" (such as standard equipment and safety), "social and cultural factors" (culture building and the role of role models), "economic factors" (cost of participation and sustainable financial resources), and finally "individual and psychological factors" (motivation, physical literacy, and psychological skills) in order to extract precise strategies for improving the level of sports activities in this organization.

Results and Discussion:

In the first stage of the analysis, which was dedicated to evaluating the measurement model (external model), the technical characteristics of the research instrument, including validity

and reliability, were confirmed with high accuracy. Based on the results, all main constructs and sub-indices had Cronbach's alpha and composite reliability higher than 0.7, which indicates the internal consistency and desirable stability of the questionnaire; so that the variable "organizational sports development" with an alpha of 0.951 and "family support" with a composite reliability of 0.981 were at the highest level. Also, the average variance extracted (AVE) index for all factors was reported to be above the threshold of 0.5, which confirms the convergent validity of the model, meaning that the latent constructs were able to explain the variance of their indicators well. In the second stage, confirmatory factor analysis and factor loadings showed that most items correlated with their constructs with a strength of more than 90%, although 25 questions were removed from the final model due to weak factor loadings (less than 0.6) to increase the accuracy of the analysis. In the evaluation of divergent validity, although the Fornell and Larker method confirmed the conceptual distinction of the constructs (the square root of AVE being larger than the cross-correlations), the results of the more stringent Heterotrite-Monotry (HTMT) criterion showed that some dimensions such as “personal motivation” and “access and safety” have very close conceptual boundaries that should be considered in the interpretation of the results. However, model fit indices (such as AIC and BIC) showed that the “social and cultural factors” model had the strongest fit and the “economic factors” had the weakest fit in explaining the model as a whole.
Finally, the results of the one-sample t-test and path analysis showed that all five indicators have a significant effect on the development of organizational sports in the National Drilling Company. Among them, the sub-index "Sports management and governance" with the highest t-statistic (36.42) and the highest mean was identified as the most critical factor. Also, individual factors such as "self-efficacy" and infrastructure factors such as "modern equipment" had high explanatory power. An important point in these findings was the significant but negative effect of "family support", which indicates that despite the importance of other factors, there may be obstacles in the social and family environment of employees that require separate corrective planning to align the living environment with the organization's sports goals.

Conclusion:
The results of the study showed that modeling the factors affecting the development of organizational sports among employees of Ahvaz Drilling Company confirmed the high reliability and robustness of the research tool. In the first step, the reliability assessment showed that all structures and sub-indices have strong internal consistency and high reliability; so that all values of Cronbach's alpha, RHO_A and composite reliability were above the threshold of 0.7 and the AVE index was above 0.5. In particular, the main variable of organizational sports development (with a composite reliability of 0.956) and the sub-index of family support and social environment (with a composite reliability of 0.981) recorded the best reliability performance. In the second step, while the Fornell and Larker method confirmed the divergent validity of the main constructs, the more precise heterotrite-monotrite criterion, reporting values above 0.90 in the correlation of some pairs of constructs (such as 1.17 between personal motivation and access), suggested the need to adjust some sub-indices to ensure a more complete conceptual distinction, especially in the individual and infrastructure dimensions. In assessing the fit of the measurement models, social and cultural factors obtained the best fit and economic factors the weakest fit. Finally, the results of the one-sample t-test strongly indicated that all the sub-indices under study have a statistically significant effect (with a significance level of 0.000) on the explanation of their main factors, and among them, the sub-indices of "sports management and governance" (with t=42.360) have the highest contribution to the managerial and organizational factor.

Declarations

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•**Conflict of Interest:** The authors declare no conflict of interest.

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