



Identifying and Analysing Factors Affecting Rough Set Theory-Based Iranian Sports Entrepreneurship Ecosystem

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ABSTRACT

Purpose: This study aims to identify the factors affecting the Rough Set Theory-Based Iranian Sports Entrepreneurship Ecosystem and their prioritization in terms of Rough Set Theory.

Methodology: This study is a type of mixed research. Thirteen experts in the field of entrepreneurship participated in the qualitative phase, and 15 experts in the field of entrepreneurship who were selected in a targeted method participated in the quantitative phase. A semi-structured interview served as the data collection method for the qualitative part of the study. The researcher created a questionnaire to gather data for the quantitative section.

Findings: In the qualitative section using the theme analysis method, 193 basic themes, 25 organizing themes, and six inclusive themes were found. The inclusive themes covered market possibilities, money, business, legal infrastructure, physical infrastructure, entrepreneurial sports prospects, and business environment quality. The results of the quantitative part of the study revealed that the commercial and legal infrastructures are more significant than other identified themes and that the quality of the business environment is the minimum considerable factor influencing the entrepreneurial sports ecosystem.

Originality: Using the theme analysis approach and Rough Set Theory-based AHP, the current research aims to identify and prioritize the elements impacting the entrepreneurial ecosystem in Iranian sports. According to this study, a wide range of variables may contribute to the Iranian sports' entrepreneurial ecosystem growth.

Keywords

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1. Introduction

The modern world is the era of entrepreneurship. Since entrepreneurship has evolved into the most crucial and strategic economic tool for societies, the development of entrepreneurship is a complicated, protracted, and all-encompassing process that significantly impacts nations' economic growth and development. To put it another way, entrepreneurial growth is essential for national and economic advancement (Liao et al., 2009; Sirmon & Hitt, 2003; Urbano et al., 2019). From a practical and objective standpoint, sports are viewed as an economic sector that contributes significantly to the creation and consumption of commodities, the provision of sports services, and the economic growth of many communities. Sports' economic value arises from making sports-related products, hosting events, offering sports services, and engaging in sports (Afshari, 2016). Several sports events offer numerous prospects for professional growth. In other words, the rise of entrepreneurial activities in sports and sporting events has spawned many brand-new employment prospects (Jones & Bill, 2009). Numerous chances exist for sports entrepreneurs due to the size of the sports industry's financial transactions, the shifting leisure habits of people, the expansion of national, regional, continental, and international events, professional sports and championships, etc. (Zare et al., 2016).

Sports are seen to be one of the most advantageous sectors for making positive economic and social improvements and have a great potential to cope with entrepreneurial issues (Miragaia et al., 2017). It is worth noting that a suitable foundation in various cultural and social fields, educational systems, administrative and financial structures, and supporting institutions is necessary for developing entrepreneurship. To encourage entrepreneurship effectively, it is essential to take a systematic approach and create an environment for it (Ghambarali et al., 2014). The term "entrepreneurial ecosystem" refers to the external factors, people, organizations, or institutions that influence or limit an individual's decision to become an entrepreneur or the likelihood that he will succeed in launching a firm (Isenberg, 2012). The growth of entrepreneurship depends on considering many challenges from various perspectives and elements that make it clear that the ecosystem approach must be used. The EE method places a strong emphasis on the societal, organizational, and individual components required to encourage and support entrepreneurial activities (Berger & Kuckertz, 2016; Rouny et al., 2017; Spigel, 2017). An essential component of building a flexible economy based on entrepreneurial innovation is the ecosystem (Amolo & Migiro, 2015).

On the other hand, the ecosystem, in the form of economic rules, is one of the techniques for job creation and economic growth (Etzkowitz, 2006). According to Entezari (2015), efforts should be taken to increase the efficacy and efficiency of the government while also liberalizing the economic system to promote entrepreneurship in Iran's economy (Entezari, 2015). Iran is ranked 183rd out of 184 nations in terms of how simple and appropriate it is to conduct business because a sectoral view rather than a systemic one has been used to track the growth of entrepreneurship. Due to the ineffectiveness of sectoral policies in fostering entrepreneurship, an ecosystem strategy

with intertwined linkages between its components has become necessary (Nadgrodkiewicz, 2013). To stimulate the synergy of entrepreneurial mindsets, find new entrepreneurial possibilities, and enable the transformation of ideas into business plans, the success of an entrepreneurial ecosystem requires a dynamic connection between its essential components and variables (Temko, 2009).

There are several entrepreneurship hurdles in Iran's business climate. It has proven difficult to utilize this technique's potential in the best possible way to explain entrepreneurial phenomena using a component-oriented approach. The government usually tackles one or two components of the ecosystem for entrepreneurship, indicating that many of its efforts won't have the desired impact. Contrarily, Iran still views sports as enjoyment, unlike the rest of the world, which views them as a business and exploits them to further their economic objectives (Mohammadi et al., 2016). Despite the advancements achieved in recent years, specific crucial components of the entrepreneurial environment remain lacking and undeveloped. Numerous ecosystem components must be considered simultaneously to foster and grow entrepreneurship (Ghambarali et al., 2014). The assessment of Iran's entrepreneurial environment shows a critical need for the expansion of entrepreneurial activity (Faghih & Zali, 2018). The Global Entrepreneurship Monitor (2018) reported that Iran's situation has been satisfactory in the physical infrastructure and the dynamics of domestic markets. Still, the environment of Iran's entrepreneurial ecosystem is not very supportive of entrepreneurial activities at the global level (Jafari Sadeghi et al., 2019).

Many established and emerging nations view entrepreneurship as a fundamental strategy for resolving domestic problems and crises and surviving in the global marketplace because of its benefits and outcomes. A more thorough investigation of the dimensions and identification of the determinants of the entrepreneurial ecosystem in Iranian sports appears essential because various factors influence the development of the entrepreneurial ecosystem in society. The critical question is what the elements of the entrepreneurial sports ecosystem are. It has been attempted to prioritize the highlighted components using Rough Set Theory to answer this question while studying the literature on the entrepreneurial ecosystem.

2. Theoretical background

An entrepreneurial ecosystem is made up of several elements that can influence a business, such as organizational factors, manager training, accountability and strategic agility of laws, access to financing, management, and human resource capacity, marketing, and technological capacity, banking facilities, data and information management and information systems, investments, financial and non-financial facilities and support, strategies to increase salespeople, developing public relations, etc. These elements are crucial to entrepreneurship's growth and development (Asa & Prasad, 2015; Getachew Regasa, 2015; Salimzadeh et al., 2013). Davari et al. (2017) reported that the effectiveness of an entrepreneurial ecosystem is influenced by several aspects, including support, human capital, markets, culture, politics, and funding (Davari et al., 2017).

According to [Ghambarali et al. \(2014\)](#), the support component was deemed less significant than other dimensions, and the policies of the development program did not pay equal attention to the ecosystem's aspects. The entrepreneurial ecosystem, which consists of policy, financial resources, support, markets, human capital, and culture, was also presented by [Liguori et al., 2019](#)). It should be noted that the elements of an entrepreneurial ecosystem vary based on their origin and intended use, as well as their type, size, and shape, which vary depending on the circumstances ([Mazzarol, 2014](#)). [Spigel \(2017\)](#) emphasizes the connections between the elements of the entrepreneurial ecosystem. These components include free markets, a supportive culture, financial resources, networks, advisers and role models, legislation, support services, and physical infrastructure ([Spigel, 2017](#)).

The primary features of entrepreneurial ecosystem systems in the economic, technological, and social aspects have also been introduced by [Audretsch et al., 2019](#)). [Fisher et al. \(2020\)](#) classify the entrepreneurial ecosystem's dimensions as follows: science and technology, human capital, a dynamic market, trade, and infrastructure ([Fisher et al., 2020](#)). The research analysis revealed that the ecosystem of sports entrepreneurship is impacted by some variables, including the legal system, the economy, and the institutionalization of the culture of demand for sports ([Niazy et al., 2020](#)). On the other side, the six critical aspects of politics, support, local and global markets, culture, financial capital, and human capital may be prioritized concerning the elements of the sports entrepreneurship ecosystem ([Negahdari et al., 2019](#)).

Accordingly, [Farahmandmehr et al. \(2019\)](#) identified the entrepreneurial environment, people capital, entrepreneurial leadership, venues, sports equipment and services, funding, and entrepreneurial infrastructure areas to develop a sports entrepreneurship ecosystem ([Farahmandmehr et al., 2019](#)). According to studies, the growth of entrepreneurship is influenced by technical, cultural, executive, educational, and research policies, as well as personal variables ([Naderian Jahromi & Pazhouhan, 2021](#)). Most entrepreneurship studies, particularly those performed in Iran, either ignore or only partially address the environmental factors that impact entrepreneurship's emergence and growth. The entrepreneurship ecosystem comprises access to capital, education in entrepreneurship, government-run entrepreneurship programs, research and development, commercial and legal policies and infrastructure, and ease of entry rules. These elements contribute to the emergence and growth of entrepreneurship through moral, financial, technological, market, social, network, government, and environmental support ([Regele & Neck, 2012](#); [Suresh & Ramraj, 2012](#)).

According to [Ratten \(2011\)](#), one of the critical influences on entrepreneurship is using technology in business ([Ratten, 2011](#)). A model of entrepreneurship development was created by [Hall and Sobel \(2008\)](#), and it included the amount of access to resources like venture capital and other entrepreneurship resources and reserves ([Hall & Sobel, 2008](#)). In addition, [Isenberg \(2011\)](#) developed a framework called the entrepreneurial ecosystem and believes that the entrepreneurial ecosystem is made up of hundreds of elements that can be categorized into six broad areas. According to this paradigm, the entrepreneurial ecosystem's essential components are the market, legislation, funding, culture, support, and human capital ([Isenberg, 2011](#)). An appropriate market structure, the availability of

funding, high-quality social and human capital, a culture that accepts failure, substantial property rights at the time of starting, exiting and selling the business, and most importantly, the desire of the government to foster an enabling environment are necessary components of the entrepreneurial ecosystem (Forfas, 2009). Generally, studies have shown that the elements of the entrepreneurial ecosystem in Iranian sports have not been thoroughly categorized. As a result, identifying these elements and ranking them according to importance might provide essential information and demonstrate the need for undertaking such a study.

3. Methodology

This study is an exploratory mixed method performed in qualitative and quantitative parts. The data pieces of the qualitative stage were obtained from the related articles and interviews. Through a purposive sampling approach, the academic staff members of the faculties of entrepreneurship management and physical education and sports sciences with knowledge in business and entrepreneurship (9 people), as well as entrepreneurs and consultants in the sports sector (4 people), were selected as participants to conduct the interviews. The interviews were allotted between 20 and 60 minutes and recorded with the participants' permission.

The data pieces were analyzed based on [Braun and Clarke \(2019\)](#) principles of reflexive thematic analysis, which has been used in other qualitative studies underpinned by critical realism ([Brown et al., 2020](#)). Automatic thematic analysis is a flexible, iterative process involving moving back and forth between stages of analysis and revisiting the raw data as often as needed to refine understanding ([Braun & Clarke, 2019](#)). The critical stages of this process included data familiarization, open coding, searching for themes, reviewing, and refining themes, and defining and naming themes before developing a final report containing a selection of data extracts. The data analysis was also characterized by the process of reproduction, which is a crucial feature of critical realism and involves integrating subjective and objective knowledge ([Fletcher, 2017](#)). Thus, transcribed interviews and data pieces from the articles were carefully studied and reviewed several times to identify and extract ideas and concepts hidden in the data. Then, all primary codes related to each fundamental theme were found and gathered as arranged themes from various codes.

The primary researcher first immersed himself in the data by reading through the transcription multiple times. Initial codes and related quotes were then identified. At this point, the researcher sought to identify as many codes as possible. In addition, two research assistants read the transcriptions and developed their codes which were then discussed with the primary researcher. Each member did the coding individually, and then the team checked and confirmed the codes. The predetermined stages were meticulously carried out to ensure the reliability of the research while the research team examined the work process. The application of the developments in different contexts can be assessed based on the research's setting, how the participants were chosen, how the data were collected, and how the results were analyzed. Additionally, Cohen's kappa coefficient-based technique of agreement between two coders was employed to assess the research's

reliability. The agreement between the coders was verified by the Kappa coefficient, which was shown to be more than 0.7 in essential situations (Siegel & Castellan, 1988).

In the quantitative part of the research, the rough AHP technique was used to analyze the causal relationships between the factors identified. This decision-making method is based on pairwise factors that take advantage of experts’ judgments about the extracted elements. The Analytical Hierarchy Process can assess the compatibility of preferences and consider objective and subjective factors. The Rough Analytical Hierarchy Process was utilized since the expert opinions were ambiguous and subjective.

4. Results

4.1. Part 1: Findings from the qualitative method

The findings of the qualitative analysis of demographic data have shown that ten participants were male and three were female. Most of the participants were older than 35. Eight participants had doctorates, three had master's degrees, and two had bachelor's degrees. Four participants were business owners and consultants in the sports sector, and 9 participants have experienced entrepreneurship scholars and university professors. One hundred ninety-three fundamental themes were gleaned from interviews and textual materials analysis. The related codes were grouped according to their semantic affinity, which reduced the number of organizing themes to 25. Finally, based on the organizing themes, six inclusive themes were developed and described below [Table 1](#).

Table 1. The basic and organizing themes of the inclusive theme of the entrepreneurship ecosystem in Iranian sports.

| Main themes (inclusive) | Organizing theme | Basic themes |
|--------------------------------------|--------------------------|---|
| Commercial and legal infrastructures | Competitive environment | The actions of both direct and indirect competitors, the potential for advantages created to be copied, alternatives—particularly in the entertainment industry—processes of globalization and localization, resource suppliers, the effectiveness of the government, the absence of economic order, price competition, competition for market share, and competition for new product development. |
| | Entrepreneurial policies | Regulatory and administrative framework for small and medium enterprises, open door policy for sponsors, contractual requirements, name rights, ownership, and workforce, development of the national model of empowerment and employment, economic stability, contraction and expansion policies of the private sector, tax and customs exemptions, simplification of administrative procedures, removal of barriers to entrepreneurship, legal incentives, amendment of laws to facilitate entrepreneurship |
| | Ease of business | The ease of starting a business, the current business-friendly policies, the simplicity of getting permits and licenses for new businesses, fundamental tax policies that do not put more financial strain on entrepreneurs, predictability, and compatibility of government laws concerning new businesses, the absence of administrative red tape, business-oriented regulations, support for retail investors, the availability of energy resources needed by the business, and bankruptcy resolution. |
| | Economic rules | Pricing system, export and import regulations, rules governing the banking system, the position of new businesses in the sports budget, rules of resource distribution among small and large enterprises, ways to cover budget deficits and possible facilities, profit subsidy quota facilities, laws related to |

| Main themes (inclusive) | Organizing theme | Basic themes |
|---------------------------------------|---|---|
| Physical infrastructure | | promoting the technical and professional capabilities of entrepreneurs, financial supervision, processes of joining the stock exchange. |
| | Government support | Enhancing local production, putting a priority on policies that help new and expanding enterprises, government support for privatization, fostering political stability, facilitating entrepreneurs' access to information, establishing development hubs, providing legal and managerial guidance, comprehensive support for research and technology parks, assistance in fostering connections between universities and scientific institutions and business, and a program for SMEs development |
| | Technology | New communication equipment (broadband, masts, etc.), long-lasting product technologies (nanotechnology), Internet usage, e-commerce software production, new media, e-government, user-generated content, R&D in advanced technology, technology synergy. |
| Sports entrepreneurship opportunities | Construction | The availability of the physical infrastructure required to launch a company (such as sports facilities, stadiums, and commercial spaces), access to energy sources, telecommunications, and transportation, as well as science and technology parks and industrial communities. |
| | The employment rate in sports | Gross national product in the sports sector, the rate of return on investment in sports, the number of businesses with more than five employees, the amount of temporary, part-time, or permanent employment of people in jobs, incomplete employment, the number of active jobs in urban and rural areas, the contribution of the working population in sports, the developed and undeveloped job opportunities in the country's sports, the variety of products and services, the rate of self-employment, the rate of employment and dismissal of the workforce. |
| | Entrepreneurial environment | Feasibility analysis (scientific, economic, technical, and marketing) and sports investments screening, familiarity with the life cycle of the industry, the strength of sports unions and syndicates, regional and geographical features, the position of sports in the Iranian household portfolio, sports diplomacy and the relationship between domestic organizations and international organizations, challenges of international law in sports. |
| | Management policies | Enhancing administrative diplomacy, streamlining the privatization of sports, creating modern regulations, motivating the regulatory framework, Analyzing, and assessing environmental opportunities, managing salaries and wages, providing human resources, providing training and development, enhancing inter-departmental and outsourcing interactions, and authority delegation. |
| | Providing services and products | Real business cycles, product development, concept screening and application, market monitoring and testing, technical and operational elements, standard compliance, commercialization, and packaging infrastructure for goods and services. |
| | Holding sports events | Hosting domestic and international tournaments (quantity and quality), requests for cooperative hosting, training camps, hosting pre-season tours of clubs, sports tourism rates, virtual leagues. |
| | The value and validity of sports activities | Popularity and general interest in sports, the level of real wages in the field of sports, the potential of generating income from sports, the stability of national and club sports, the status of sports celebrities, the rate of attracting advertising and sponsorship by sports events, successful events (visible successes, wealth generation for founders, international reputation), financial-economic evaluation of sports projects. |
| Capitals | Intellectual Capital | Human capital (technological entrepreneurs, technical and managerial skills, business education, entrepreneurial experience, personality traits, resources, the potential of outsourcing, access to the migrant workforce), structural capital (workflow, intellectual power, information system), relational capital (job applicants, personnel, investors, networks and partners). |
| | Financial capital | Providing collective financial resources (gifts, aid, and rewards), venture capital, angel investors, supplying resources and providing financial facilities (support fund for sports entrepreneurs), the possibility of financing new |

| Main themes (inclusive) | Organizing theme | Basic themes |
|-------------------------------------|--|---|
| Market opportunities | | businesses through the offering of shares, guaranteeing credit for acquisition and financial work, encouraging investment, financial support for entrepreneurship. |
| | Social capital | Social participation, social trust, social cohesion, willingness to invest, professional networking of companies, inter-sectorial communication. |
| | Physical capital | Production of sports equipment and supplies, spaces for professional sports services, recreational, educational, and tourism sports facilities, administrative structures, and spaces. |
| | Market value | Income, cost, profit, tax, financial market (stocks, bonds), investment rate, market knowledge |
| | Market size | Access to domestic and international customers, market share, open markets (adequate local opportunities for businesses and access to local markets). |
| | Market dynamism | Changes in customer preferences, market fluctuations, exchange rate changes, competitors' behavior changes, environmental resistance, lobbying and political sanctions, unexpected events such as diseases, war, etc., the country's relations with its neighbors, changes in the demographic pyramid, inflation rate and interests. |
| | Market capacity and demand | The rate of annual changes in the market of consumer and commercial goods and services, distribution channels, ease of entering new markets, the degree of commitment of new businesses to established businesses, effective anti-monopoly laws with high enforceability, added-value creation processes, entrepreneurial networks, and international cooperation. |
| Quality of the business environment | Entrepreneurial capabilities and attitudes | Psychological features (risk-taking, uncertainty tolerance, motivation, self-confidence, independence, success-seeking, aggressive competition, pioneering), capabilities and talents (creativity and innovation, leadership ability, money management, entrepreneurial spirit), experiences and learning (interactive perspective and teamwork, opportunism, work experience, and previous jobs, marketing experiences). |
| | Commercial space | Elimination of brokers and mediators, state of supply of primary resources, power of negotiation and bargaining, economic security, the legal and judicial system of trade, control of corruption, legal grounds and provision of investment force, the performance of money markets, quality of industries. |
| | Entrepreneurial culture | Social norms (tolerating mistakes and failures, viewing innovation), the entrepreneur's social base, role models in entrepreneurship and entrepreneurs' success stories, the desire to discover opportunities, the value position of entrepreneurship in society, media support for entrepreneurship, resistance to change, perceptual resistance, reliance on the results of scientific and academic research. |
| | Entrepreneurship education | Developing educational resources and texts, attention to entrepreneurship topics in schools and universities, training of individual and self-employment skills, teaching-learning strategies, needs assessment and academic targeting, past evaluations-based design of training courses, using virtual training capacity. |

4.2. Quantitative section: Rough Set Theory-based Analytical Hierarchy Process (AHP)

The descriptive findings about this group of experts' viewpoints were utilized in this part and are shown in Table 2. This section employed the perspectives of 15 experts relevant to the research topic.

Table 2. Distribution of the research experts in the quantitative section.

| Features | Options | Frequency | Frequency percentage |
|-----------|-------------------|-----------|----------------------|
| Gender | Male | 13 | 86.6 |
| | Female | 2 | 13.4 |
| Age | 20-30 | 1 | 6.6 |
| | 31-40 | 6 | 40.0 |
| | 41-50 | 8 | 53.3 |
| Education | Bachelor's degree | 2 | 13.4 |
| | Master's degree | 4 | 26.6 |
| | PhD | 9 | 60.0 |

In the second section, the selected criteria were prioritized and ordered using the hierarchical approach and AHP software based on the Rough Set Theory to determine the elements impacting the entrepreneurial ecosystem in Iran's sports industry. One of the most well-known and often employed techniques for multi-indicator decision-making, the Analytical Hierarchy Process, can assess the compatibility of preferences and take both objective and subjective factors into account. The Rough Analytical Hierarchy Process was utilized since the expert opinions were ambiguous and subjective. The steps of this procedure are shown in the following section (Zhu et al., 2015).

- **Step 1:** Identifying the objective, criteria, and research options and forming a hierarchical structure.
- **Step 2:** Prepare a pairwise comparison questionnaire and collect experts' ideas.
- **Step 3:** Utilizing the concept of Rough Set Theory to convert experts' preferences into distance numbers and form a distance pairwise comparison matrix similar to equation 1:

$$\begin{bmatrix} [1,1] & [x_{12}^L, x_{12}^U] & \dots & [x_{1m}^L, x_{1m}^U] \\ [x_{21}^L, x_{21}^U] & [1,1] & \dots & [x_{2m}^L, x_{2m}^U] \\ \vdots & \vdots & & \vdots \\ [x_{m1}^L, x_{m1}^U] & \dots & & [1,1] \end{bmatrix}$$

- **Step 4:** Calculating the weight of each research criterion using Equations 2 and 3:

$$w_i = \left[\sqrt[m]{\prod_{j=1}^m x_{ij}^L}, \sqrt[m]{\prod_{j=1}^m x_{ij}^U} \right]$$

$$\hat{w}_i = w_i / \max(w_i^u)$$

The AHP approach determines the weight of the criteria in this section. First, a paired technique based on a scale of 1 to 9 in order of importance was used to assess the criteria and sub-criteria by 15 research specialists. Pairwise comparisons of expert judgments based on rough figures are provided in Table 3 using Formula 1.

Table 3. Rough’s pairwise comparison matrix.

| | A | B | C | D | E | F |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
| A | (1,1) | (3.88, 7.69) | (4.45, 6.17) | (3.14, 6.70) | (2.32, 4.99) | (3.25, 5.99) |
| B | (0.13, 0.25) | (1,1) | (0.79, 1.88) | (0.49, 2.05) | (0.41, 1.67) | (0.63, 1.45) |
| C | (0.16, 0.22) | (0.53, 1.25) | (1,1) | (0.64, 2.10) | (0.43, 1.61) | (0.60, 1.01) |
| D | (0.14, 0.31) | (0.48, 2.02) | (0.47, 1.56) | (1,1) | (0.64, 2.64) | (0.86, 3.25) |
| E | (0.20, 0.43) | (0.59, 2.42) | (0.61, 2.30) | (0.37, 1.54) | (1,1) | (1.13, 4.02) |
| F | (0.16, 0.30) | (0.68, 1.57) | (0.98, 1.65) | (0.30, 1.15) | (0.24, 0.88) | (1,1) |

The ultimate weight of the sub-criteria is calculated by dividing the main criterion's weight by the sub-relative criteria's weight, which is listed in [Table 4](#).

Table 4. Ultimate weight and rank of the sub-criteria and criteria

| Criteria | Standard weight | Sub-criteria | The sub-relative criteria's weight | Substandard ultimate weight | Final sub-criterion rating |
|---------------------------------------|-----------------|---|------------------------------------|-----------------------------|----------------------------|
| Commercial and legal infrastructures | 0.459 | Competitive environment | 0.558 | 0.256 | 1 |
| | | Entrepreneurial policies | 0.205 | 0.094 | 2 |
| | | Ease of business | 0.108 | 0.049 | 7 |
| | | Economic rules | 0.090 | 0.041 | 8 |
| | | Government support | 0.039 | 0.017 | 15 |
| Physical infrastructure | 0.103 | Technology | 0.733 | 0.075 | 4 |
| | | Construction | 0.267 | 0.027 | 12 |
| Sports entrepreneurship opportunities | 0.093 | The employment rate in sports | 0.420 | 0.039 | 9 |
| | | Entrepreneurial environment | 0.231 | 0.021 | 14 |
| | | Management policies | 0.160 | 0.014 | 18 |
| | | Providing services and products | 0.087 | 0.008 | 22 |
| | | Holding sports events | 0.058 | 0.005 | 23 |
| Capitals | 0.122 | The value and validity of sports activities | 0.043 | 0.004 | 25 |
| | | Intellectual Capital | 0.499 | 0.060 | 5 |
| | | Financial capital | 0.309 | 0.037 | 10 |
| | | Social capital | 0.123 | 0.015 | 17 |
| Market opportunities | 0.133 | Physical capital | 0.069 | 0.008 | 21 |
| | | Market value | 0.575 | 0.076 | 3 |
| | | Market size | 0.229 | 0.030 | 11 |
| | | Market dynamism | 0.132 | 0.017 | 16 |
| Quality of the business environment | 0.089 | Market capacity and demand | 0.064 | 0.008 | 20 |
| | | Entrepreneurial capabilities and attitudes | 0.569 | 0.050 | 6 |
| | | Commercial space | 0.249 | 0.022 | 13 |
| | | Entrepreneurial culture | 0.122 | 0.010 | 19 |
| | | Entrepreneurship education | 0.060 | 0.005 | 24 |

5. Discussion and conclusion

The present study aims to identify the factors impacting the entrepreneurial ecosystem in Iranian sports and prioritize them using the Rough Set Theory-based AHP method. Based on the research's findings, the identified elements were classified into the following categories: financial resources, market potential, physical infrastructure, sports entrepreneurship prospects, and the standard of the business environment. The significance of the discovered characteristics was then assessed using the AHP approach for each inclusive theme, which contained some organizing themes. Rough Set Theory has also been employed to account for uncertainty.

Accordingly, legal, and commercial infrastructure, competitive environment, entrepreneurial policies, ease of doing business, economic laws, and government support were identified as the main themes of legal and commercial infrastructure in order of importance. These factors should be prioritized to improve the entrepreneurial ecosystem in Iran's sports sector. One way to foster an entrepreneurial spirit is to encourage competition. Taking advantage of numerous chances in a set workplace and away from a competitive atmosphere is harder. [Pakmaram and Rezaei \(2017\)](#) studied the competitive environment and its indications, which included pricing competition, marketing, and rivals' behavior ([Pakmaram & Rezaei, 2017](#)).

The competitive environment is a determinant of an economy's dynamism and efficiency, and the more robust and more developed an economy is, the better its competitiveness indices are. Competition promotes productivity and innovation by encouraging business owners and economic activists to provide clients with higher-quality goods and services while maximizing profit and market share. According to [Torabi and Kheyrandish \(2020\)](#), commercial and judicial infrastructure positively correlates with GDP. This implies that economies will expand enormously in nations with greater commercial and legal infrastructure ([Torabi & Kheyrandish, 2020](#)).

Government initiatives that offer support and services can stimulate entrepreneurship across all economies ([Mittal & Vyas, 2011](#)). The government may assist business owners by providing assistance and guidance through chambers of commerce or publically funded incubators ([Bartik, 1989](#)). [Isenberg \(2011\)](#); [Liguori et al. \(2019\)](#); [Regele and Neck \(2012\)](#) have also highlighted the importance of the commercial and legal infrastructure for the growth of the entrepreneurial ecosystem ([Isenberg, 2011](#); [Liguori et al., 2019](#); [Regele & Neck, 2012](#)). According to [Isenberg \(2011\)](#), the effectiveness of the entrepreneurial ecosystem is influenced by entrepreneurship infrastructure, government backing, and macro-policies ([Isenberg, 2011](#)). Some essential elements, such as the presence of government-run entrepreneurship programs, pro-entrepreneurship laws, a strong commercial and legal infrastructure, and entry-level regulations, have also been recognized by ([Regele & Neck, 2012](#)).

The legal system and supporting infrastructure were also analyzed by [Niazy et al. \(2020\)](#) as beneficial to the ecosystem of the sports business. Under cover of government assistance, the formation and ratification of business laws rely heavily on the commercial and legal infrastructure. The tax was first proposed by [Keuschnigg and Nielsen \(2004\)](#) as one of the fundamental regulatory mechanisms for carrying out governmental programs

(Keuschnigg & Nielsen, 2004). The research revealed that economic laws are among the most significant business and legal themes. Sports businesses can innovate and expand if appropriate financial regulations and tax rules are applied. According to Cohen (2006), economic laws should be written to promote economic transparency and comprehensive financial data databases, strengthen regulatory bodies during the export and import processes, and lower the tax burden on the economy. The absence of transparency brought on by the tax regulations will reduce investment, output, and entrepreneurship, followed by a rise in exchange prices (Cohen, 2006).

The market opportunities (market value, size, market dynamics, market capacity, and demand) are crucial factors impacting the sports entrepreneurship ecosystem, which has been ranked second. Due to the chance for entrepreneurship, job creation, innovation, and economic growth by intelligently employing money and turning it around, the market will result in the development of the business environment (Michelacci & Suarez, 2000). Chrisman and McMullan (2002) regarded market value and expertise as crucial tools for capitalizing on market opportunities (Chrisman & McMullan, 2002). The acceptance of new goods or services in the market is greatly influenced by market knowledge.

Entrepreneurs are more likely to seize opportunities if they have a dynamic market and a better understanding of consumer demand for a particular product. Market value, size, dynamics, demand rate, and industry structure drive entrepreneurial activities. The market's size and characteristics create opportunities for entry. Long-term market dynamics impact macroeconomic growth (Fitzová & Zidek, 2015). According to (Torabi & Kheyrandish, 2020), many entrepreneurial activities are available in nations whose market dynamics are changing quickly. According to the findings of Runiewicz-Wardyn (2013); Spigel (2017), market opportunities and the entrepreneurial ecosystem are positively correlated (Runiewicz-Wardyn, 2013; Spigel, 2017). Also, Khoshbakht-Ahmadi et al. (2022) considered market changes as one of the factors in creating sports entrepreneurship opportunities (Khoshbakht Ahmadi et al., 2022).

The capital was used to categorize the third factor affecting the ecosystem of sports entrepreneurship (intellectual capital, financial capital, social capital, and physical capital). The most significant aspect of money has been determined to be intellectual capital. Intellectual capital, the primary driver of competitive advantage and wealth creation in knowledge-based economies, takes many forms, including human, structural, and communication capital, which may help people find business opportunities and identify and capitalize on emerging trends (Kianto et al., 2017). Using data analysis from the Global Entrepreneurship Monitor, Rodriguez et al. (2010) validated the importance of knowledge and intellectual capital in identifying business opportunities as the first stage in the entrepreneurial process. The discovery and exploitation of new possibilities are influenced by intellectual capital (Ramos-Rodriguez et al., 2010). As Sanchez (2012) reported, potential entrepreneurs, or human capitals, have a special place in the entrepreneurial ecosystem (Ács et al., 2014).

The development of human capabilities in sports can lead to sustainable development in the sports business (Norouzi Seyed Hossini et al., 2022). One of the central concerns with entrepreneurship is access to financial resources for business owners to take advantage of the chances they have found. Halt et al. (2017) investigated a variety of

sources of funding, including investment angels, communal finance, family and friend resources, and personal savings. Starting a business requires finance and the provision of necessary resources. A significant factor in the failure of many firms is the absence of such help, which are crucial for establishing a firm foothold in the marketplace (Halt et al., 2017). The entrepreneurial environment may also be influenced by non-economic elements such as social and physical capital and economic considerations like market and financial advantages. The emergence of creativity, ideation, and risk-taking behaviors, which are among the indications of entrepreneurship, is a social phenomenon influenced by social capital (Cohen & Levinthal, 1990).

The fourth category of the practical components of the entrepreneurship ecosystem is physical infrastructure (technology and construction). Similarly, Redford (2012) argue that physical infrastructure is crucial to developing entrepreneurial ecosystems (Redford, 2012). Physical and civil equipment problems influence the growth of the entrepreneurial sports ecosystem. The previous studies indicated that physical infrastructure is crucial for entrepreneurship (Van De Ven, 1993). By accelerating access to resources, physical infrastructure promotes entrepreneurship. Physical infrastructure is essential for beginning a firm, according to Ghani et al. (2014), who also noted that the current study's findings support their assertion (Ghani et al., 2014). Hosseini et al. (2021) have also pointed out the role of physical infrastructure, especially technology, in developing sports entrepreneurship (Hosseini et al., 2021).

According to Audretsch et al. (2015), entrepreneurship is related to a certain kind of infrastructure, like broadband (Audretsch et al., 2015). Naderian Jahromi and Pazhouhan (2021) found that the technological component was one of the influential aspects of the entrepreneurial environment. Farahmandmehr et al. (2019) offered locations, sporting goods and services, and entrepreneurship infrastructure to establish an entrepreneurial sports ecosystem. They argued that entrepreneurship, investment, and start-up success depend on physical infrastructure, including transportation, land or operating space, and communication facilities. Access to physical infrastructures, such as offices and using space, public equipment, and services, is typically necessary to launch a business, particularly in the sports industry. Such services will promote the creation of new jobs (Salimath & Cullen, 2010).

Sports entrepreneurship prospects are the ecosystem's sixth component after its constituent parts (employment rates in the sport, entrepreneurship environment, management policies, services and products, sports events, value, and credit for sports activities). Finding the opportunity is the most crucial phase in any entrepreneurial process. Indeed, the opportunity cannot be exploited unless the identification is made. The process of identifying new possibilities and taking advantage of them is called entrepreneurship (Gaglio & Katz, 2001). The more individuals establish a business, the more readily available the prospects are. The opportunity must be at the core of entrepreneurial efforts since, without a chance, entrepreneurship is nothing (Mojtavi et al., 2019).

Three different sorts of entrepreneurship-related policies have been put in place by governments to increase business prospects. First, they have improved the regulatory environment for entrepreneurship by giving money and streamlining bureaucratic rules.

Second, they have increased the nation's environmental knowledge and skill by offering programs to distribute its environmental expertise and skill. Finally, they have strengthened their normative environment via the necessary measures to enhance the community's perceptions of the entrepreneurship sector, which might increase people's drive to become entrepreneurs (Forfas, 2009). Negahdari et al. (2019) and Naderian Jahromi and Pazhouhan (2021) have included the elements of organizational and managerial policies that are effective for the growth of entrepreneurship in their analyses of their findings. For market analysts, one of the key topics is sports entrepreneurship potential. Indeed, entrepreneurship is the search for opportunity (Baron, 2008).

The quality of the business environment, which comprises entrepreneurial competencies and attitudes, business environments, entrepreneurial cultures, and entrepreneurial education, is the last factor influencing the entrepreneurial ecosystem. All efforts made by other sectors will be fruitless if sports advocates' attitudes toward the sports industry's potential for entrepreneurship are unsuitable. Naderian Jahromi and Pazhouhan (2021), argued that training entrepreneurial thinking and culture, expanding entrepreneurial research and development centers, and establishing and developing knowledge-based companies in the sports field. Also, more variables such as: holding digital entrepreneurship training workshops, electronic businesses and sports start-ups, educational and research programs of universities with entrepreneurial values, scientific cooperation with academic and research centers of developed countries, matching university courses with sports-related jobs, and developing individual factors in the direction of entrepreneurial skills can provide valuable solutions in creating entrepreneurial thinking, building new and diverse careers, and employment of sports graduates. Schools, universities, and educational institutions play an essential and significant role in sports entrepreneurship as feeders that can bring skilled, creative, and entrepreneurial individuals into the sports entrepreneurship ecosystem in the areas of sports services and products (Block & Stumpf, 1990).

Societal values and conventions significantly influence the evolution of entrepreneurship. As a result, the culture dictates the growth and advancement of innovation, and the culture determines the type of current attitudes, values, and conventions. Cultural attitudes and a culture's history of entrepreneurship are two critical aspects of the entrepreneurial environment from a cultural perspective (Spigel, 2017). Training as a career choice increases the number of entrepreneurs by giving practical knowledge for beginning a business (Clarysse & Bruneel, 2007), enhancing the capacity to comprehend and recognize entrepreneurial possibilities, and promoting risky actions (Lee et al., 2005). According to research, learning about the appeal and viability of entrepreneurship is positively correlated with entrepreneurship courses or university programs. In this regard, Torabi and Kheyrandish (2020) have also demonstrated that nations would see more economic growth when their educational systems are more effective at fostering entrepreneurial talents (Torabi & Kheyrandish, 2020).

Coordination between effective institutions and alignment of support, cultural, social, economic, and educational policies are required considering the multitude of elements that influence the entrepreneurial environment in the sports industry. When developing the entrepreneurial ecosystem, it is essential to consider the market, entrepreneurship policies,

and the competitive environment. In this regard, it is recommended that policymakers and executives focus on the many aspects of the business environment and adapt the required assistance to develop appropriate and effective policies. Additionally, they establish the required circumstances to draw domestic and international visitors to create business prospects in the market by offering a variety of chances, such as hosting regional, national, and international events. Additionally, it is advised that future researchers identify the barriers affecting the sports entrepreneurship ecosystem in various fields, including sports production and services, sports events, sports tourism, and women's sports, and that they analyze practical solutions to current problems.

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References

- Ács, Z. J., Autio, E., & Szerb, L. (2014). National Systems of Entrepreneurship: Measurement issues and policy implications. *Research Policy*, 43(3), 476-494. <https://doi.org/10.1016/j.respol.2013.08.016>
- Afshari, M. (2016). *Causal analysis of the influence of transnational management, resistance economy and sports development in the economic development of Iran's sports industr* [Ph.D, Urmia]. Iran.
- Amolo, J., & Migiros, S. O. (2015). An entrepreneurial flair development: the role of an ecosystem. *Problems and Perspectives in Management*, 13(2), 495-505. https://www.businessperspectives.org/images/pdf/applications/publishing/templates/article/assets/6597/PPM_2015_02s pec.issue_SA_Amolo.pdf
- Asa, A., & Prasad, N. (2015). Analysis on the Factors that Determine Sustainable Growth of Small Firms in Namibia. *Journal on Innovation and Sustainability RISUS*, 6(2), 72-79. <https://doi.org/10.24212/2179-3565.2015v6i2p72-79>
- Audretsch, D. B., Cunningham, J. A., Kuratko, D. F., Lehmann, E. E., & Menter, M. (2019). Entrepreneurial ecosystems: economic, technological, and societal impacts. *The Journal of Technology Transfer*, 44(2), 313-325. <https://doi.org/10.1007/s10961-018-9690-4>
- Audretsch, D. B., Heger, D., & Veith, T. (2015). Infrastructure and entrepreneurship. *Small Business Economics*, 44(2), 219-230. <https://doi.org/10.1007/s11187-014-9600-6>
- Baron, R. A. (2008). The role of affect in the entrepreneurial process. *Academy of management Review*, 33(2), 328-340. <https://journals.aom.org/doi/abs/10.5465/AMR.2008.31193166>
- Bartik, T. J. (1989). Small business start-ups in the United States: Estimates of the effects of characteristics of states. *Southern Economic Journal*, 55(4), 1004-1018. <https://doi.org/10.2307/1059479>
- Berger, E. S. C., & Kuckertz, A. (2016). Female entrepreneurship in startup ecosystems worldwide. *Journal of Business Research*, 69(11), 5163-5168. <https://doi.org/10.1016/j.jbusres.2016.04.098>
- Block, Z., & Stumpf, S. A. (1990). *Entrepreneurship education research: experience and challenge*. Center for Entrepreneurial Studies. https://books.google.com/books/about/Entrepreneurship_Education_Research.html?id=D1wVHQAAAJ

- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589-597. <https://doi.org/10.1080/2159676X.2019.1628806>
- Brown, C. J., Butt, J., & Sarkar, M. (2020). Overcoming Performance Slumps: Psychological Resilience in Expert Cricket Batsmen. *Journal of Applied Sport Psychology*, 32(3), 277-296. <https://doi.org/10.1080/10413200.2018.1545709>
- Chrisman, J. J., & McMullan, W. E. (2002). Some Additional Comments on the Sources and Measurement of the Benefits of Small Business Assistance Programs. *Journal of Small Business Management*, 40(1), 43-50. <https://doi.org/10.1111/1540-627X.00037>
- Clarysse, B., & Bruneel, J. (2007). Nurturing and growing innovative start-ups: the role of policy as integrator. *R&D Management*, 37(2), 139-149. <https://doi.org/10.1111/j.1467-9310.2007.00463.x>
- Cohen, B. (2006). Sustainable valley entrepreneurial ecosystems. *Business Strategy and the Environment*, 15(1), 1-14. <https://doi.org/10.1002/bse.428>
- Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), 128-152. <https://www.jstor.org/stable/2393553>
- Davari, A., Sefidbari, L., & Baghersad, V. (2017). The factors of entrepreneurial ecosystem in Iran Based on Isenberg's Model. *Journal of Entrepreneurship Development*, 10(1), 101-120. <https://doi.org/10.22059/jed.2017.62306>
- Entezari, Y. (2015). Building Knowledge- Based Entrepreneurship Ecosystems: Case of Iran. *Procedia - Social and Behavioral Sciences*, 195, 1206-1215. <https://doi.org/10.1016/j.sbspro.2015.06.242>
- Etzkowitz, H. (2006). *The entrepreneurial university and the triple helix as a development paradigm*. Conference on Launching a Program to Transform University-Industry-Government Relations in Ethiopia, East Africa.
- Faghih, N., & Zali, M. R. (2018). *Entrepreneurship Ecosystem in the Middle East and North Africa (MENA): Dynamics in Trends, Policy and Business Environment*. Springer Cham. <https://link.springer.com/book/10.1007/978-3-319-75913-5>
- Farahmandmehr, A., Sharififar, F., & Nikbaksh, R. (2019). Designing and Explaining the framework of Entrepreneurship Ecosystem in Sport. *Sport Management and Development*, 8(1), 64-83. <https://doi.org/10.22124/jsmd.1970.3453>
- Fisher, G., Stevenson, R., & Burnell, D. (2020). Permission to hustle: Igniting entrepreneurship in an organization. *Journal of Business Venturing Insights*, 14, e00173. <https://doi.org/10.1016/j.jbvi.2020.e00173>
- Fitzová, H., & Zidek, L. (2015). Impact of trade on economic growth in the Czech and Slovak Republics. *Economics & Sociology*, 8(2), 36-50. <https://doi.org/10.14254/2071-789X.2015/8-2/4>
- Fletcher, A. J. (2017). Applying critical realism in qualitative research: methodology meets method. *International Journal of Social Research Methodology*, 20(2), 181-194. <https://doi.org/10.1080/13645579.2016.1144401>
- Forfas, F. (2009). *Entrepreneurial Ecosystem: South West Ireland, rethinking entrepreneurship. Baseline Data and Analysis*.
- Gaglio, C. M., & Katz, J. A. (2001). The Psychological Basis of Opportunity Identification: Entrepreneurial Alertness. *Small Business Economics*, 16(2), 95-111. <https://doi.org/10.1023/A:1011132102464>
- Getachew Regasa, D. (2015). External Factors Affecting Firm Growth: Evidence from Small Scale Manufacturing Firms in Tigray Regional State of Ethiopia. *International Journal of*

- Management and Business Research*, 5(4), 279-286. https://ijmbr.srbiau.ac.ir/article_7964_5405faa6ac72e1956b6b59a03391e032.pdf
- Ghambarali, R., Agahi, H., Ali Beygi, A. M., & Zarafshani, K. (2014). Entrepreneurship Ecosystem Strategy: A New Paradigm for Entrepreneurship Development. *Journal of Entrepreneurship in Agriculture*, 1(3), 21-38. https://jead.gau.ac.ir/article_2272.html?lang=en
- Ghani, E., Kerr, W. R., & O'Connell, S. (2014). Spatial Determinants of Entrepreneurship in India. *Regional Studies*, 48(6), 1071-1089. <https://doi.org/10.1080/00343404.2013.839869>
- Hall, J., & Sobel, R. (2006). *Public policy and entrepreneurship*.
- Halt, G. B., Donch, J. C., Stiles, A. R., & Fesnak, R. (2017). *Intellectual property and financing strategies for technology startups*. Springer. <https://doi.org/10.1007/978-3-319-49217-9>
- Hosseini, S. S., Mokhtari Dinani, M., & Rezaei Pandari, A. (2021). Presenting a Model of Factors Affecting Sports Entrepreneurship (Case Study: Lorestan Province). *Sports Business Journal*, 1(1), 131-151. <https://doi.org/10.22051/sbj.2021.37223.1012>
- Isenberg, D. (2011). The entrepreneurship ecosystem strategy as a new paradigm for economic policy: Principles for cultivating entrepreneurship. *Presentation at the Institute of International and European Affairs*, 1(781), 1-13. <http://www.innovationamerica.us/images/stories/2011/The-entrepreneurship-ecosystem-strategy-for-economic-growth-policy-20110620183915.pdf>
- Isenberg, D. (2012). Introducing the Babson entrepreneurship ecosystem project. *The Babson Global*, 1-28.
- Jafari Sadeghi, V., Nkongolo-Bakenda, J.-M., Anderson, R. B., & Dana, L.-P. (2019). An institution-based view of international entrepreneurship: A comparison of context-based and universal determinants in developing and economically advanced countries. *International Business Review*, 28(6), 101588. <https://doi.org/10.1016/j.ibusrev.2019.101588>
- Jones, W., & Bill, K. (2009). *Bachelor of Business: sports & events Management*. J. C. U. o. Australia.
- Keuschnigg, C., & Nielsen, S. B. (2004). Start-ups, venture capitalists, and the capital gains tax. *Journal of Public Economics*, 88(5), 1011-1042. [https://doi.org/10.1016/S0047-2727\(03\)00046-X](https://doi.org/10.1016/S0047-2727(03)00046-X)
- Khoshbakht Ahmadi, E., Aghaei Shahri, M. S., & Azimzade, S. M. (2022). Exploring Entrepreneurial and Innovative Sports Opportunities During and After the Corona Crisis. *Sports Business Journal*, 2(1), 41-57. <https://doi.org/10.22051/sbj.2022.40239.1030>
- Kianto, A., Sáenz, J., & Aramburu, N. (2017). Knowledge-based human resource management practices, intellectual capital and innovation. *Journal of Business Research*, 81, 11-20. <https://doi.org/10.1016/j.jbusres.2017.07.018>
- Lee, S. M., Chang, D., & Lim, S.-b. (2005). Impact of Entrepreneurship Education: A Comparative Study of the U.S. and Korea. *The International Entrepreneurship and Management Journal*, 1(1), 27-43. <https://doi.org/10.1007/s11365-005-6674-2>
- Liao, J., Welsch, H. P., & Pistrui, D. (2009). Entrepreneurial expansion plans: An empirical investigation of infrastructure predictors. *New England Journal of Entrepreneurship*, 12(1), 19-32. <https://doi.org/10.1108/NEJE-12-01-2009-B002>
- Liguori, E., Bendickson, J., Solomon, S., & McDowell, W. C. (2019). Development of a multi-dimensional measure for assessing entrepreneurial ecosystems. *Entrepreneurship & Regional Development*, 31(1-2), 7-21. <https://doi.org/10.1080/08985626.2018.1537144>
- Mazzarol, T. (2014). *Growing and sustaining entrepreneurial ecosystems: The role of regulation, infrastructure and financing*. S. E. A. o. A. a. N. Zealand. <https://research-repository.uwa.edu.au/en/publications/growing-and-sustaining-entrepreneurial-ecosystems-the-role-of-reg>

- Michelacci, C., & Suarez, J. (2000). Business creation and the stock market. 1-35. <https://core.ac.uk/download/pdf/7354593.pdf>
- Miragaia, D. A. M., Ferreira, J., & Ratten, V. (2017). Corporate social responsibility and social entrepreneurship: drivers of sports sponsorship policy. *International Journal of Sport Policy and Politics*, 9(4), 613-623. <https://doi.org/10.1080/19406940.2017.1374297>
- Mittal, M., & Vyas, R. (2011). A study of psychological reasons for gender differences in preferences for risk and investment decision making. *IUP Journal of Behavioral Finance*, 8(3), 45-60. <https://www.proquest.com/openview/5cb4ff68a6656d1e90e10ab04c1a9cc4/1?pq-origsite=scholar&cbl=54444>
- Mohammadi, M., Sayadi, M. A., & Sayed Ameri, M. H. (2016). The Determination of organizational entrepreneurship based on social capital components in Youth and Sports general office of Ilam province. *Applied Research in Sport Management*, 5(1), 23-33. <https://doi.org/20.1001.1.23455551.1395.5.1.2.7>
- Mojtavi, S. E., Hosseinzadeh, O., & Hajjarian, M. (2019). Examining the factors affecting students' entrepreneurship (case study: Urmia University). *Journal of science and engineering elites*, 4(4), 90-94. <https://doi.org/10.30466/JFRD.2019.120799>
- Naderian Jahromi, M., & Pazhouhan, F. (2021). An Analysis of the Role of Teaching Entrepreneurship in Employing Sport Sciences Graduates. *New Trends in Sport Management*, 8(31), 125-137. <http://ntsmj.issma.ir/article-1-1403-en.html>
- Nadgrodkiewicz, A. (2013). *Building entrepreneurship ecosystems*. E. R. F. Services. https://edisciplinas.usp.br/pluginfile.php/2326970/mod_resource/content/3/A7-CIPE_Report_Creating_the_Environment_for_Entrepreneurial_Success_1113.pdf#page=18
- Negahdari, F., Ghahraman Tabrizi, K., Sharifian, I., & Biabani, H. (2019). Identification and Ranking of the Dimensions of the Sports Entrepreneurial Ecosystem in Iran. *Sport Management Studies*, 11(57), 79-104. <https://doi.org/10.22089/smrj.2019.6586.2360>
- Niazy, P., Nazari, R., & Azimzade, m. (2020). Developing the Model of Sustainable Development of Sport Entrepreneurship in Iran from the Perspective of Strategic Thinking Based on the Grounded Theory. *New Trends in Sport Management*, 8(29), 87-103. <http://ntsmj.issma.ir/article-1-1270-en.html>
- Norouzi Seyed Hossini, R., Ehsani, M., Kozehchian, H., & Amiri, M. (2022). The Role of Human Capabilities Development in the Sustainable Development of Sport Business. *Sports Business Journal*, 2(1), 73-85. <https://doi.org/10.22051/sbj.2022.40796.1033>
- Pakmaram, A., & Rezaei, N. (2017). The impact of competitive environment and organizational measures on management accounting practices and organizational performance. *Management Accounting*, 10(34), 45-55. https://jma.srbiau.ac.ir/article_10673_daa1f4756afeb63a3003ea48aebb9791.pdf
- Ramos-Rodriguez, A.-R., Medina-Garrido, J.-A., Lorenzo-Gómez, J.-D., & Ruiz-Navarro, J. (2010). What you know or who you know? The role of intellectual and social capital in opportunity recognition. *International Small Business Journal*, 28(6), 566-582. <https://doi.org/10.1177/0266242610369753>
- Ratten, V. (2011). Sport-based entrepreneurship: towards a new theory of entrepreneurship and sport management. *International Entrepreneurship and Management Journal*, 7(1), 57-69. <https://doi.org/10.1007/s11365-010-0138-z>
- Redford, D. T. (2012). Entrepreneurship and Public Policy for today and tomorrow's Portuguese Republic. *University of California*.
- Regele, M. D., & Neck, H. M. (2012). The entrepreneurship education subecosystem in the United States: Opportunities to increase entrepreneurial activity. *Journal of Business*

- and *Entrepreneurship*, 23(2), 25-47. <https://www.proquest.com/openview/63feb1f5f133c08752fe11bd9b84fa07/1?pq-origsite=gscholar&cbl=33312>
- Roundy, P. T., Brockman, B. K., & Bradshaw, M. (2017). The resilience of entrepreneurial ecosystems. *Journal of Business Venturing Insights*, 8, 99-104. <https://doi.org/10.1016/j.jbvi.2017.08.002>
- Runiewicz-Wardyn, M. (2013). *Knowledge flows, technological change and regional growth in the European union*. Springer Cham. <https://doi.org/10.1007/978-3-319-00342-9>
- Salimath, M. S., & Cullen, J. B. (2010). Formal and informal institutional effects on entrepreneurship: a synthesis of nation-level research. *International Journal of Organizational Analysis*, 18(3), 358-385. <https://doi.org/10.1108/19348831011062175>
- Salimzadeh, P., Courvisanos, J., & Nayak, R. R. (2013, July 11-12). *Sustainability in small and medium sized enterprises in regional Australia: A framework of analysis*. 26th Annual Small Enterprise Association of Australia and New Zealand Conference Proceedings, Sydney, Australia. <http://inform.regionalaustralia.org.au/industry/small-business/item/sustainability-in-small-and-medium-sized-enterprises-in-regional-australia-a-framework-of-analysis>
- Siegel, S., & Castellan, N. J. (1988). *Nonparametric Statistics for the Behavioral Sciences*. McGraw-Hill. <https://books.google.ru/books?id=bq3uAAAAMAAJ>
- Sirmon, D. G., & Hitt, M. A. (2003). Managing Resources: Linking Unique Resources, Management, and Wealth Creation in Family Firms. *Entrepreneurship Theory and Practice*, 27(4), 339-358. <https://doi.org/10.1111/1540-8520.t01-1-00013>
- Spigel, B. (2017). The Relational Organization of Entrepreneurial Ecosystems. *Entrepreneurship Theory and Practice*, 41(1), 49-72. <https://doi.org/10.1111/etap.12167>
- Suresh, J., & Ramraj, R. (2012). Entrepreneurial ecosystem: Case study on the influence of environmental factors on entrepreneurial success. *European Journal of Business and Management*, 4(16), 95-101. <https://core.ac.uk/download/pdf/234624389.pdf>
- Temko, S. (2009). An overview to entrepreneurial ecosystems. *Center for Business Education, Innovation and Development*, 1(3).
- Torabi, H., & Kheyrandish, M. (2020). Impact of Entrepreneurial Ecosystem on Entrepreneurial Activity: GEM based Analysis. *Journal of Innovation and Value Creation*, 9(17), 163-182. <https://rimag.ricest.ac.ir/en/Article/9838/FullText>
- Urbano, D., Aparicio, S., & Audretsch, D. (2019). Twenty-five years of research on institutions, entrepreneurship, and economic growth: what has been learned? *Small Business Economics*, 53(1), 21-49. <https://doi.org/10.1007/s11187-018-0038-0>
- Van De Ven, H. (1993). The development of an infrastructure for entrepreneurship. *Journal of Business Venturing*, 8(3), 211-230. [https://doi.org/10.1016/0883-9026\(93\)90028-4](https://doi.org/10.1016/0883-9026(93)90028-4)
- Zare, Q., Hamidi, M., & Sajjadi, S. N. (2016). The relationship between the psychological factors of empowering experts and organizational entrepreneurship in the physical education organization of the country. *Research in Sports Management and Movement Behavior*, 9, 71-82.
- Zhu, G.-N., Hu, J., Qi, J., Gu, C.-C., & Peng, Y.-H. (2015). An integrated AHP and VIKOR for design concept evaluation based on rough number. *Advanced Engineering Informatics*, 29(3), 408-418. <https://doi.org/10.1016/j.aei.2015.01.010>



شناسایی و تحلیل اکوسیستم کارآفرینی در ورزش ایران مبتنی بر مجموعه تئوری راف

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کلیدواژه

فضای کسب و کار

سرمایه

حمایت دولتی

پویایی بازار

نوع مقاله

پژوهشی اصیل

چکیده

هدف: هدف پژوهش حاضر شناسایی عوامل موثر بر اکوسیستم کارآفرینی در ورزش ایران و اولویت‌بندی آنها بر اساس روش AHP مبتنی بر مجموعه تئوری راف بود.

روش: پژوهش انجام شده از نوع آمیخته است. مشارکت‌کنندگان در مرحله کیفی، شامل ۱۳ نفر از افراد مطلع در حوزه کارآفرینی (کارآفرینان و پژوهشگران) و در مرحله کمی، شامل ۱۵ نفر از متخصصان حوزه کارآفرینی بودند که به روش هدفمند انتخاب شدند. ابزار گردآوری داده‌ها در بخش کیفی مصاحبه نیمه ساختارمند و در بخش کمی پرسشنامه محقق‌ساخته‌ای بود که عوامل آن از طریق مطالعه بخش کیفی استخراج شد.

یافته‌ها: یافته‌ها در بخش کیفی با استفاده از روش تحلیل مضمون بیانگر ۱۹۳ مضمون پایه، ۲۵ مضمون سازمان‌دهنده و ۶ مضمون فراگیر بود. مضامین فراگیر شامل زیرساخت‌های تجاری و قانونی، زیرساخت‌های فیزیکی، فرصت‌های کارآفرینی ورزشی، سرمایه‌ها، فرصت‌های بازار، کیفیت فضای کسب و کار بود. در بخش کمی نتایج نشان داد که زیرساخت‌های تجاری و قانونی از اهمیت بالاتری نسبت به سایر مضامین شناسایی شده دارد و کیفیت فضای کسب و کار کمترین اهمیت را در بین عوامل موثر بر اکوسیستم کارآفرینی در ورزش به خود اختصاص داده است.

اصالت و ابتکار مقاله: پژوهش حاضر تلاش کرده است با استفاده از روش تحلیل مضمون و AHP مبتنی بر تئوری راف مولفه‌های موثر بر اکوسیستم کارآفرینی در ورزش ایران را شناسایی و اولویت‌بندی کند. بر این اساس، این پژوهش مجموعه متنوعی از عوامل را پیشنهاد می‌کند که می‌توانند در توسعه اکوسیستم کارآفرینی ورزشی در ایران نقش داشته باشند.

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