




## Effective factors on the development of digital entrepreneurship

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## Abstract

**Objective of the study:** The purpose of this research is to study the effective factors on the development of digital entrepreneurship.

**Methodology:** The statistical population of this research included digital sports entrepreneurs and sports management experts, from whom 20 people were selected by purposeful sampling for in-depth interviews until reaching theoretical saturation. Thematic analysis method was used for data analysis.

**Originality/relevance:** Digital entrepreneurship is an emerging field in sport; therefore, the effective factors on the development of digital entrepreneurship in sport have not been considered as a comprehensive and complete model.

**Main results:** A total of 199 initial codes were extracted, after which that, 54 preliminary themes, 10 sub themes, 8 main themes and 3 main categories were formed. Finally, the categories were grouped into 3 main categories, including background, structural, and content factors.

**Theoretical/methodological contributions:** Awareness of the effective factors on digital entrepreneurship in sport can contribute to the growth and development of this field. This work aims to offer a deeper expression on this important field.

**Social/management contributions:** Based on research findings, it is suggested that in the first step, specialized and up-to-date training courses be provided on digital entrepreneurship, and in the next steps, a specific trade union system for sports entrepreneurs should be formed to regulate the relationship between private sector and the government in the field of sports entrepreneurship.

*Keywords:* entrepreneurship, digital entrepreneurship, development, business, sports

## Fatores efetivos no desenvolvimento do empreendedorismo digital

### Resumo

**Objetivo do estudo:** O objetivo desta pesquisa é estudar os fatores efetivos no desenvolvimento do empreendedorismo digital.

**Metodologia:** A população estatística desta pesquisa incluiu empreendedores digitais do esporte e especialistas em gestão esportiva, entre os quais 20 pessoas foram selecionadas por amostragem intencional para entrevistas em profundidade até alcançar a saturação teórica. O método de análise temática foi utilizado para a análise dos dados.

**Originalidade/relevância:** O empreendedorismo digital é um campo emergente no esporte. Portanto, os fatores efetivos no desenvolvimento do empreendedorismo digital no esporte não foram considerados como um modelo abrangente e completo.

**Principais resultados:** Um total de 199 códigos iniciais foram extraídos, após os quais 54 temas preliminares, 10 subtemas, 8 temas principais e 3 categorias principais foram formados. Finalmente, as categorias foram agrupadas em 3 categorias principais, incluindo fatores de contexto, estruturais e de conteúdo.

**Contribuições teóricas/metodológicas:** A conscientização sobre os fatores efetivos no empreendedorismo digital no esporte pode contribuir para o crescimento e desenvolvimento deste campo. Este trabalho busca oferecer uma expressão mais profunda sobre este importante campo.

**Contribuições sociais/gerenciais:** Com base nos resultados da pesquisa, sugere-se que, em um primeiro passo, sejam oferecidos cursos de formação especializados e atualizados em empreendedorismo digital e, nos próximos passos, seja formado um sistema sindical específico

para os empreendedores esportivos, a fim de regulamentar a relação entre o setor privado e o governo no campo do empreendedorismo esportivo.

*Palavras-chave:* empreendedorismo, empreendedorismo digital, desenvolvimento, negócios, esportes.

## Factores efectivos en el desarrollo del emprendimiento digital

### Resumen

**Objetivo del estudio:** El propósito de esta investigación es estudiar los factores efectivos en el desarrollo del emprendimiento digital.

**Metodología:** La población estadística de esta investigación incluyó a emprendedores digitales deportivos y expertos en gestión deportiva, entre los cuales se seleccionaron 20 personas mediante un muestreo intencional para entrevistas en profundidad hasta alcanzar la saturación teórica. Para el análisis de los datos se utilizó el método de análisis temático.

**Originalidad/relevancia:** El emprendimiento digital es un campo emergente en el deporte. Por lo tanto, los factores efectivos en el desarrollo del emprendimiento digital en el deporte no han sido considerados como un modelo integral y completo.

**Principales resultados:** Se extrajeron un total de 199 códigos iniciales, tras lo cual se formaron 54 temas preliminares, 10 subtemas, 8 temas principales y 3 categorías principales. Finalmente, las categorías se agruparon en 3 categorías principales, que incluyen factores de contexto, estructurales y de contenido.

**Contribuciones teóricas/metodológicas:** La comprensión de los factores efectivos en el emprendimiento digital en el deporte puede contribuir al crecimiento y desarrollo de este campo. Este trabajo busca ofrecer una expresión más profunda sobre este importante campo.

**Contribuciones sociales/gerenciales:** Basándose en los hallazgos de la investigación, se sugiere que, en un primer paso, se ofrezcan cursos de formación especializados y actualizados sobre emprendimiento digital y, en los pasos siguientes, se forme un sistema sindical específico para los emprendedores deportivos para regular la relación entre el sector privado y el gobierno en el ámbito del emprendimiento deportivo.

*Palabras clave:* emprendimiento, emprendimiento digital, desarrollo, negocios, deportes.

### Introduction

The sports industry is one of the most profitable industries of 21st century, and the richest people in the world usually invest in the field of recreation and sports (Potts & Thomas, 2018). The best and most popular world brands are related to the field of sports (Ferreira, Fernandes & Ratten, 2019). Statistics show that 15% of world's GDP in 2018 was expended on recreation, health and sports (Ashouri, Dosti, & Hoseini, 2022). Nowadays, sports as the sixth income-generating industry in developed countries has attracted the attention of many idea owners, sports

entrepreneurs and innovation promotion centers (Hattink & Wichers, 2021). The development of entrepreneurial processes has created wealth, value and new job opportunities (Wallis et al. 2020). Sports has been studied from different aspects due to the important role it plays in our daily life (Olivier, 2006). However, researchers have not recognized the sports industry as an economic entity, and little is known about sports from an entrepreneurial perspective (Pellegrini et al., 2020).

Entrepreneurship is a multifaceted phenomenon, and an entrepreneur has been defined as a person who establishes and manages a business for profit and growth (Smith, Hamilton, Fabian, 2019). According to the 2023 report of Global Entrepreneurship Monitor (GEM), Iran has not an acceptable position among 51 active countries in this research consortium and has been ranked 50th. For the second year in a row, the overall entrepreneurial environment in Iran has been in the second lowest category of qualities. Last year and this year, Iran's entrepreneurial environment was only better than that of Sudan and Venezuela, respectively. This is while entrepreneurship can play an essential role in the economic development of societies.

Sports entrepreneurship involves individuals, organizations or communities that work together to create value as a group in order to take advantage of various opportunities (Kerenyi & McIntosh, 2020). Sports entrepreneurship has been considered a new and collaborative approach towards sustainable development of societies because it plays an important role in the development of business, employment, welfare, mental and physical health; this type of entrepreneurship is a factor for the advancement of the country as well as for individual growth in order to solve social problems. On the other hand, entrepreneurship in sports can play an essential role and contribute to the health of society as well as sustainability and continuity of sports businesses through considering the competitive environment in sports programs, development of clubs, construction of sports facilities and devices. Although entrepreneurship in sports is a new category, it can involve various aspects such as employment and education. To pay attention to sports and find suitable approaches to implement the programs, the state of sports entrepreneurship in the country must be described, and given that sports and physical education are highly attractive among people, entrepreneurship encourages sports officials to develop new solutions and strategies by applying innovation and competitive advantages (Belz & Binder, 2017).

The entrepreneurial ecosystem is a new approach to systematically and comprehensively examine the development of entrepreneurship in various fields such as sports. The concept of entrepreneurial ecosystems has been derived from the literature of regional development and

strategic management (Acs et al., 2017). Based on the ecosystem approach, entrepreneurship is a function of the interaction between people's characteristics with environmental factors, which can affect entrepreneurs and the entrepreneurial process locally, regionally, or even nationally (Stam, 2015). To be competitive, entrepreneurial ecosystems should be developed according to regional requirements or industry needs (Soto-Rodriguez, 2015).

In Iran, researchers have recognized the main factors involved in the entrepreneurial ecosystem as follows: ideas and talents, support structures and infrastructures, startup community, policymaking, financing, public trends and the market (Arasti & Gholami, 2010). The key factors creating an entrepreneurial ecosystem in Iranian sports include the entrepreneurial environment, human capital, entrepreneurial leadership, venues, sports equipment and services, financing, and entrepreneurial infrastructure (Farahmandmehr et al., 2019). In addition, Iran's sports entrepreneurship ecosystem can be prioritized in the six main dimensions of politics, support, local and global market, culture, financial capital, and human capital (Neghdari et al., 2019). On the other hand, the close connection of sports with health, education and tourism has made entrepreneurship in the digital platform an important component of the sports industry. The social nature of sport requires utilization of technology, especially in digital and online formats (Zeimers et al. 2019). Compared to other industrial sectors, the sports industry has been the recipient of many technological innovations and digital transformation, which have affected the economic growth and productivity of sports industry units (Hayduk, 2019). Digital technologies have democratized entrepreneurship by creating more equivalent playing fields, which has paved the way for the development of sports entrepreneurship ecosystem as more people are empowered to innovate (Retten & Thompson, 2020).

### **Theoretical Reference Framework**

The continuous growth of e-commerce and the evolution of information technology have led to the growth of digital entrepreneurship (Zhou & Lee, 2023; Chang et al., 2018; Wang et al., 2016). Digital entrepreneurship is a field of entrepreneurship that involves the use of the Internet, Information and Communications Technology (ICT). Digital entrepreneurship refers to creating a business on the Internet in a specific area in order to sell or provide services online (Satalkina & Steiner, 2020). This emerging field is intertwined with new forms of business models (Sussan & Acs, 2017), which can lead to fundamental changes by digitizing businesses (Le Dinh et al. 2018., Oumlil & Juiz, 2018). Technological opportunities for digital entrepreneurs depend on the existing

information technology infrastructure (Nambisan, 2017). According to Sussan and Acs (2017), the users and participants of a digital ecosystem can easily communicate with each other, and digital ecosystems provide great opportunities for entrepreneurs. Nowadays, due to the role of new technologies in online businesses, more attention is paid to digital entrepreneurship. In this regard, organizations have turned to digitizing their business to compete at the international level (Ratten, 2018). Therefore, it can be said that the development of digital entrepreneurship in all industries is important and inevitable (Tumbas et al. 2018). This type of entrepreneurship is an opportunity to use other information and communication technology tools, and undoubtedly, the role of this type of economic activities in GDP of countries will become more prominent over the next few decades (Giones and Brem, 2017). Retten (2018) argues that there is a growing demand for innovative sports-based products and services using emerging technology that is driving sports entrepreneurship. The results of Bagherian's research (2021) also indicate that the search for the phrase "home exercise" in Google has grown significantly over an eight-month period in Iran, namely before the start of COVID-19 epidemic until the middle of it. Nowadays, most people have smart phones, and the standpoint on the utility of sports has also changed (Miragaia, Da Costa & Ratten, 2018). Today, we observe that sports goods and services have been affected by the digitalization phenomenon. Each of the sports clubs has its own website, the clubs are active in social networks, the sale of many sports goods and the display of many sports events are achieved through the website, computer and mobile software, and many electronic businesses have been formed around sports. Tang and Blackman (2018) stated that management and leadership features along with human resource mobilization are the main components of startups business model in the field of sports. According to Ferraro and Di Francisco (2018), geographical, technological and economic aspects are important in the development of sports startups. Fard et al. (2021) believe that seven key factors contribute to the development of digital entrepreneurship: Digital Business Model, Product/Service Innovation Strategy, Digital Entrepreneurship Ecosystem, Environmental Factors, Resource Configuration, Organizational Factors and personal factors. According to Antonizzi and Smuts (2020), Self-employment, Job Satisfaction, Entrepreneurial Perspective, Digitalization and Adoption of Technology are some characteristics of digital entrepreneurship. In addition, the results of Samuel et al. (2020) study showed that Abilities and Capacities of Companies, Strategies for Implementation of Digital Technologies and Use of Digitalization Opportunities are key factors of digital entrepreneurship in commercial businesses. Recker and



Von Briel (2019) have studied the future of digital entrepreneurship and showed that digital entrepreneurship consists of three dimensions: Phenomenon, Digital Technologies as Enablers, and Results or Contexts of Digital Entrepreneurship Processes. Autio et al. (2018) also studied European indicators in the digital entrepreneurship ecosystem and found that the framework and indicators of digital entrepreneurship consist of Human Capital, Knowledge Development and Dissemination, Network and Support and Financial Access. Moreover, Ngoasong (2018) stated that the factors affecting the development of digital entrepreneurship are as follows: Policies, Promotion of Information and Communication Technology Infrastructures, Development of Transportation Infrastructure and Entrepreneurship Training Opportunities.

Review of theoretical foundations and research background indicates that the emergence and development of entrepreneurship are not accidental and that entrepreneurship is a phenomenon dependent upon economic, social, cultural and political factors, which are often referred to as preconditions of entrepreneurship development (Hosseini et al. 2021). In fact, many different factors affect the development of entrepreneurship (Navidi et al. 2023). Improvement of the following infrastructures is among the most important factors influencing the development of digital entrepreneurship: financial (Cunningham et al. 2016., Autio et al. 2018), legal (Mousa et al. 2024), political (Mousa & Abdelgaffar, 2023., Cunningham et al. 2016., Ngoasong, 2018., Mousa, 2024), educational (Ngoasong, 2018) and technological (Ngoasong, 2018., Oumlil & Juiz, 2018., Antonizzi and Smuts, 2020).

Digital entrepreneurship is an emerging approach to innovation. Since digital entrepreneurship has advantages such as lower start-up costs, wider geographic reach and greater interaction with customers over traditional business models (Wang et al., 2016), it is gradually becoming a form of entrepreneurship readily accepted by and available to the younger generation (Chang et al., 2020). On the other hand, the success of an innovation ecosystem strongly depends on the level of communication between its actors (Iansiti & Levien, 2004). Communication is crucial and improves along with the progress of the ecosystem (Stephenson, 2008). In addition, the important barriers to innovation and entrepreneurship development are not related to technological aspects or the availability of capital, but rather to the convergence and coordination between different components in the entrepreneurial ecosystem (Moore, 1996). The success of innovation ecosystems is dependent on a high level of communication between its actors (Iansiti & Levien, 2004). According to Gonzalez-Serrano et al. (2021), high levels of business,

infrastructure, human capital, technology and creativity, as well as high levels of infrastructure and research are among the most important factors affecting sports entrepreneurship ecosystems in EU member states. Ratten and Thompson (2020) also consider the use of social networks and international communication to be of high importance in digital sports entrepreneurship ecosystems. Moreover, in another research, it was concluded that internationalization plays a vital role in successful implementation of an entrepreneurial ecosystem, that international networks are vital for creating sports participation and generating knowledge among stakeholders and that the development of sports platforms for entrepreneurship is influenced by government policies such as budgets and incentives (Ratten, 2019). Darooghe Arefi et al. (2022) presented a system dynamic model for the entrepreneurial ecosystem in Iran's sports industry. Their findings indicate that sports tourism, market opportunities, entrepreneurship infrastructure and a favorable environment for entrepreneurship all play an important role in the development of sports entrepreneurship infrastructure in Iran.

From the above statements and the study of Stam & Van de Ven (2019), it is clear that in recent years, ecosystems have attracted further attention as a tool for understanding the context of entrepreneurship at macro level of an organized society. However, the existing body of literature on marketing and start-up ecosystems is incomplete in several aspects. Although recent studies have analyzed the factors affecting the creation of entrepreneurship and business ecosystems in general, few studies have investigated them specifically in the sports sector without providing a research framework (Gonzalez-Serrano, 2021). Therefore, given the lack of information, research and models in the field of entrepreneurship ecosystem and sports start-ups, the founders of sports start-ups have taken steps in this direction by relying on their innovative power and assumptions that has been associated with several challenges. Sport is inherently competitive and involves various institutions, and a biological metaphor is useful for understanding the evolution of entrepreneurship and the way they interact from an ecological perspective (Ratten & Nanere, 2020). Moreover, digital entrepreneurship in Iran, which is a developing country, faces problems and challenges due to its nature and the absence of a suitable platform. The most important challenges for the development of digital entrepreneurship in Iran are as follows. The lack of a suitable platform in terms of technical and network equipment and security of personal data exchanges, weak internet infrastructure, absence of government support, lack of management experience, and the time-consuming nature of taking the necessary permits that are other obstacles



to the development of electronic entrepreneurship (Zare, 2016). In spite of such challenges, digital sports entrepreneurship is crucial to drive innovation, increase fan engagement, and create sustainable business models in the sports industry. Digital platforms and technologies enable innovative business models such as eSports, virtual sports experiences and online sports markets (Ratten & Thompson, 2020). Digitization creates innovation, streams value chains and enables their flow in real time (diffusion mechanism) (Cieśliński & Tomanek, 2022). Digital platforms facilitate direct communication between sports organizations and fans, fostering a deeper sense of community and loyalty (Mousa, Althalathini & Avolio, 2024; Sanchez-Medina, 2020; Pless, 2007). Digital businesses can reduce environmental impacts and operational costs associated with traditional sports events and activities (Mousa & Abdelgaffar, 2023). Besides, digital sports entrepreneurship has the potential to create a revolution in the way of experiencing, consuming and generating income from sports in the digital age (Mousa & Arslan, 2023).

On the other hand, following COVID-19 outbreak and the declaration of pandemic by WHO on March 11, 2020 (Concotran and Borland, 2020), people's need to stay at home and their willingness to shop online led to a sharp increase in digital services (Ratten, 2021). Iran was among the countries hit by COVID-19 (Afshar Jahanshahi et al., 2020), which severely affected this country since March 2020 (Zhang et al., 2020). In addition, the people of Iran have faced unique challenges such as sanctions, economic stagnation, and lack of medical equipment and supplies (Mohtari Dinani et al. 2024., Chen et al., 2022). The COVID-19 crisis in Iran has been exacerbated by a decade of US-led economic sanctions (Afshar Jahanshahi et al., 2020, 2021). Iran's entrepreneurial ecosystem has changed significantly after COVID-19 epidemic. The number of failed startups has increased and there have been limited options to finance their entrepreneurial activities, including venture capital funds supported by the government, the Presidential Science and Technology Office, and the National Innovation Fund (Salamzadeh & Paul Dana, 2021). The challenges associated with COVID-19 pandemic have fueled digital entrepreneurship and created many new opportunities (Tajvidi & Tajvidi, 2021). In the past few decades, technological progress has led to the digitalization of the economy, and COVID-19 outbreak has accelerated the development of digital economy and highlighted the necessity of its further development (Schrage, 2020). Sports entrepreneurship is considered an essential component of sports organizations system, and in the conditions following COVID-19 pandemic, such entrepreneurship has become even more important (Ratten, 2020).

### Method

This qualitative research adopts a sequential exploratory strategy. To identify the effective factors on the development of digital entrepreneurship in Iranian sports, qualitative content analysis, open and axial coding of interviews have been used in this research. The statistical population of this research included digital sports entrepreneurs and sports management experts, among whom 20 people were selected by non-probability snowball sampling method to hold interviews, which continued until the codes reached theoretical saturation (Glaser, 2017). The research samples had executive and research background related to the research topic (Table 1).

**Table 1**

*Characteristics of research samples*

Code	Education	Organizational Position	Work Experience
S1	MSc	Executive director of two sports startups	10 years of teaching experience in innovation centers
S2	PhD	Academic lecturer in the field of sports	12 years of executive experience in startups
S3	MSc	Founder and member of several startups	15 years of work and management experience in sports facilities
S4	PhD	Founder of a sports startup and sports researcher	19 years of executive and managerial work experience in publications and electronic media
S5	MSc	Digital entrepreneur	12 years of experience in programming and web design, 7 years in charge of overseas broadcasting networks
S6	MSc	IT teacher of broadcasting centers	11 years of executive work experience in sports federations
S7	PhD	Expert in cycling federation	7 years of experience in the field of financial technology
S8	PhD	Startup financing expert	More than 15 years of teaching and research experience in sports management
M1	PhD	University faculty member	30 years of teaching and research experience in sports management
M2	PhD	University faculty member	More than 15 years of teaching and research experience in sports marketing
M3	PhD	University faculty member	More than 20 years of experience in teaching, executive management and research in sports management, entrepreneurship and economic development

Code	Education	Organizational Position	Work Experience
M4	PhD	University faculty member	More than 17 years of teaching and research experience in sports management
M5	PhD	University faculty member	More than 13 years of experience in digital entrepreneurship
E1	MSc	Founder of two startups in the field of health	15 years of experience in managing and teaching start-up businesses
E2	MSc	Training manager of SAKOO Accelerator -founder of a startup in the field of health	12 years of consulting and management experience in the field of entrepreneurship
E3	MSc	Managing director and editor of the monthly special for startups	More than 10 years of management experience in the field of digital entrepreneurship
E4	MSc	Director and founder of two startups in the field of health and treatment	20 years of executive and managerial experience in IT
E5	MSc	The manager and founder of sports field startup	12 years of executive experience in the field of digital entrepreneurship
E6	MSc	Director and founder of three startups in the field of health	15 years of experience in managing and consulting digital businesses
E7	MSc	Manager of several artificial intelligence and programming teams	10 years of executive experience in sports clubs

We have collected data from Iran, a country that faced economic sanctions (Afshar Jahanshahi et al. 2020., Navidi et al. 2023) and experienced the COVID-19 pandemic (Chen et al. 2022., Mokhtari Dinani et al. 2023., Zhang et al. 2020). Nine open and general research questions were asked. Afterwards, the questions were based on participants' answers to discover deeper specific aspects. Raw data were obtained inductively from in-depth interviews and analyzed according to Braun, Clarke & Weate's approach (2016) to thematic analysis. This method involves a *six-phase process for analysis* as follows: Step 1: Become familiar with the data, Step 2: Generate initial codes, Step 3: Search for themes, Step 4: Review themes, Step 5: Define themes, Step 6: Write-up. MAXQDA software (2020 version) was used for data analysis. The reliability of interviews was evaluated using Kappa coefficient test. It is possible to assess the rate of agreement between two measurements (by two people or two instruments or at two points in time) by using this coefficient. In this method, to calculate the reliability of the codings, after a specific period of time, the interviews were coded again and the rate of agreement between the two codings was

calculated based on Kappa coefficient, a variable in 0-1 range that is expressed as a percentage. The minimum acceptable value of Kappa coefficient is >0.6, and a value >0.8 is considered ideal (Guyt, 2014). Therefore, given that Kappa coefficient was 0.78 in the current research, it indicated good and acceptable reliability of the coding process.

## Results

By analyzing in-depth semi-structured interviews, an attempt was made to present a model of digital entrepreneurship in sports.

**Table 2**

*Categories and categorization for digital entrepreneurship in sports*

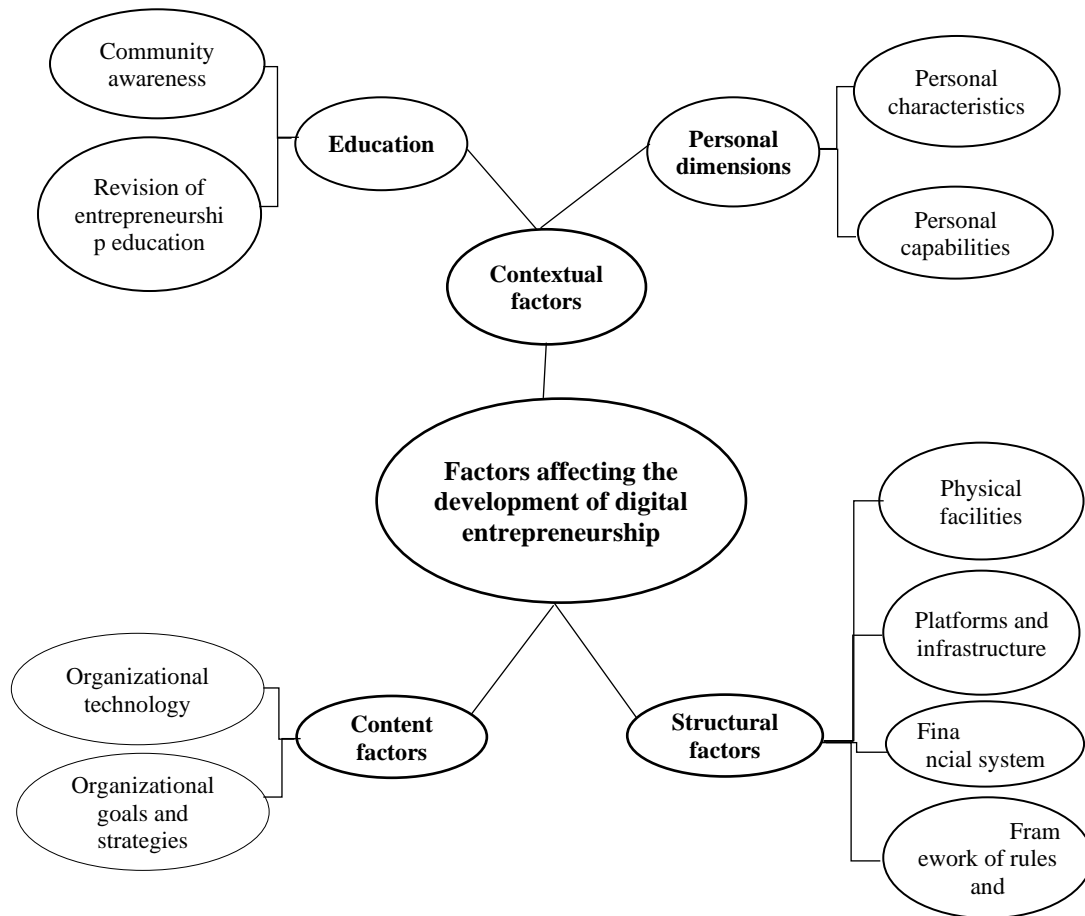
Factors	Main themes	Sub themes	Preliminary themes
<b>Background factors</b>	<b>Personal dimensions</b>	<i>Personal characteristics</i>	Creativity The power of risk Personal interest Job satisfaction The spirit of problem solving Perseverance Curiosity Pragmatism Independence Motivation Perfectionism Vision
		<i>Personal capabilities</i>	Knowledge and expertise Previous experience in entrepreneurship self-employment Value creation High leadership ability
	<b>Education</b>	<i>Community awareness</i>	Promoting the culture of digital entrepreneurship in society Employing experts in the field of entrepreneurship in teaching
		<i>Revision of entrepreneurship education</i>	Revision of the content and style of university teaching Teaching specialized digital entrepreneurship courses

Factors	Main themes	Sub themes	Preliminary themes
<b>Structural factors</b>	<b>Physical facilities</b>	<i>Hardware equipment and development</i>	Development of ICT infrastructure Development of sports service equipment Development of transportation infrastructure
	<b>Platforms and infrastructure</b>	<i>Digital software development</i>	Internet security in the field of electronics Network economy Abilities and capacities of companies Revision of macro policies Interactions between government institutions Political stability The existence of national innovations and entrepreneurial expertise The awareness level of government officials regarding the strategic interests of society
	<b>Financial system</b>	<b>Developing access to financial resources</b>	National development programs and prioritization of financial resources Macroeconomic indicators Access to financial resources
	<b>Framework of rules and regulations</b>	<b>Compilation and correction</b>	Amendment of business rules Amendment of tax and legal laws Revision of health system laws Facilitating demand conditions Government support
<b>Content factors</b>	<b>Organization technology</b>	<b>Rules</b>	Digitization Technical requirements Strategies in the implementation of digital technologies
	<b>Goals and strategies of the organization</b>	<b>Technical development of entrepreneurship</b>	Customer orientation and marketing Communication and networking Recruiting and retaining expert staff Digital business model Competitors Configuration of resources Product and service Supply chain Type of organization New idea Management style

After initial coding, repetitive and redundant terms were removed, and those related to the development of digital entrepreneurship were retained. Then, the main category was selected and related to other categories, and finally, the themes were networked (Figure 1).

**Figure 1**

*Effective factors on the development of digital entrepreneurship*



**Discussion**

This research was conducted with the aim of investigating the effective factors on the development of digital entrepreneurship. The results of thematic analysis showed that all three main categories had an impact on the growth and development of digital entrepreneurship in Iranian sports. These factors include background, structural, and content factors. Based on the results, the emergence and development of entrepreneurship in a digital platform are related to the



personal dimensions of the entrepreneur, and specialized training in this field can be a basis for the promotion of digital entrepreneurship. Since entrepreneurship is triggered by a person, the individual features of entrepreneurs are effective in the way they make decisions and the behaviors they show. Entrepreneurship is highly dependent upon the individual characteristics of the entrepreneur. The analysis results of interviews indicated that the individual dimensions include personal features and capabilities of the entrepreneur and lead to the rise and growth of digital entrepreneurship. Personality traits of an entrepreneur are a set of individual features shared among most entrepreneurs, which usually originate from family background and the education people receive. Entrepreneurs have high intelligence and analytical skills, can face risk and tolerate failure, are not afraid of uncertainties, go beyond the existing norms and break the tradition, are innovative, creative and inspired, possess high self-confidence and use both formal and informal methods to learn new things. In addition, they know well the way of understanding others, accepting opposing ideas as well as the mode of life in networks and have strong connections with others. Psychological models use the role of personality, motivation and the desire to influence others to explain entrepreneurship.

Another main factor in the development of digital entrepreneurship is personal capabilities, which encompass capacities that are created after birth and throughout life. It seems that this category of abilities is mostly developed through education and participation in training courses. Behavior is a reflection of individual actions, and a person's ability or willingness to successfully engage in entrepreneurial behavior largely depends on his/her personality (Remeikiene, 2013., Johnston et al. 2009). Since entrepreneurship starts from the individuals themselves, the personality traits and attitude of an individual are of high importance in entrepreneurship (Bujor and Avasilcai, 2016., Yildirim et al. 2016., Miranda et al. 2017., Voda and Florea, 2019).

Education is a systematic, conscious and goal-oriented process, during which high potential, non-entrepreneur individuals are trained in a creative way. In fact, entrepreneurship training is any activity meant to transfer the required knowledge and information in the direction of entrepreneurship, which will improve and develop the attitudes, skills and abilities of non-entrepreneurs. Education contributes to mental preparation and correct use of one's abilities (Hassan, 2020. Lu et al. 2021). Therefore, a person's education and level of knowledge are effective in his/her entrepreneurial attitude (Heryanda et al. 2019., Voda & Flora, 2019., Yildirim et al. 2016., Garcia-Palma & Molina, 2016 and Ngoasong, 2018).

Structural factors include the following categories: physical facilities, platforms and infrastructures, financial system, and the framework of laws and regulations. Physical facilities, especially technological infrastructure and modern tools in sports, are facing severe weakness. This is while the high quality of information resources and communication technology infrastructure increases the ability of organizations in digital business. The development of physical and technological infrastructure is among the necessary strategies for the growth of digital entrepreneurship in sports. Taking advantage of the capacity of virtual spaces creates many entrepreneurial opportunities. Ratten & Jones (2020) and Ratten & Miragaia (2020) believe that the integration of sports with technology causes diversity in sports and creates new markets.

Infrastructure is a platform provided by administrative or governmental institutions and organizations. Small and large private companies can design and present different systems to their audience by relying on the soundness of infrastructure. Normally, the entrepreneur considers a list of requirements to implement his/her idea in the virtual space and does not invest until these requirements are met; otherwise, they stop working after investing and later realize that the infrastructure is not able to meet the prerequisites of their idea. In fact, the lack of security has an effect on entrepreneurial activity, and naturally, people do not place their pure idea in a context where its security is easily endangered. It is of high importance to provide suitable infrastructure for the growth of entrepreneurial activities as well as encouraging entrepreneurship. Chris Gibbons believes that it is important to support entrepreneurs themselves, which should also involve the environment around them.

The financial system governing a society is also considered an essential structural factor in the development of digital entrepreneurship. In fact, access to financial resources is another factor influencing the development of digital entrepreneurship because it helps businesses move forward with better speed and mechanism. Access to financial resources plays a key role in sustaining entrepreneurship as well as supporting small and medium businesses. Obtaining the funds needed to start businesses has always been a challenge for entrepreneurs, and access to financial resources for entrepreneurs is a major concern in an entrepreneurial process to implement the identified opportunities (Arbolino, 2017). It seems that the country's structures and laws have not been developed for financing and granting facilities to the business sector, especially small and medium sized companies. This means that the financial sector of the economy should serve the real sector so that the resources are directed towards increasing efficiency in the entrepreneurial sector.

Moreover, another significant factor in the development of digital entrepreneurship is the framework of rules and regulations governing the society. The available evidence and studies show that the dominant laws and regulations for businesses have not provided suitable grounds for entrepreneurial activities in the digital platform, but rather have been an obstacle for entrepreneurial goals in Iran. It may be said that entrepreneurs notice problems such as administrative rules and regulations to their business to a higher extent than competition from the private sector for their activities. Existing laws and regulations in the sphere of start-up businesses are serious impediments to issuing licenses and executive processes, and to improve these conditions, it is necessary to reduce the number of decision-making centers. Several mostly cumbersome laws have led to the non-compliance of industry investors with the multitude of laws, whereas the owners of industries should turn to production and not get involved in marginal issues.

The third main category known as content factors in this research includes "organizational technologies" and "organization goals and strategies". Different forms of technology are a function of people who try to find more efficient and faster ways of doing things and applying new ideas. Since the overall goal of a technology is to facilitate and automate processes for improving the performance of people and machines, organizations possessing up-to-date and advanced technology have higher performance and a lower risk of failure. On the other hand, the strategies of an entrepreneur in the organization can lead to the growth and development of the business. Strategy represents all the procedures and decisions that the entrepreneur adopts in order to achieve the goals of the organization and improve performance in his/her business. Management and strategic planning are necessary and beneficial for organizations of various sizes. This process improves performance and guarantees the survival of an organization.

Based on findings of this research, it is suggested that educational institutions promote specialized courses in digital entrepreneurship, identify talented people in the field of digital entrepreneurship and provide specialized training to them. Moreover, adopting a clear and codified strategy and policy for the development of digital entrepreneurship in sports can reinforce the development of digital entrepreneurship in sports through creating a stable financial support system in the country along with incentive policies related to tax exemptions for the private sector. Supporting and encouraging private sector investors to invest in sports and handing over sports venues to private sector investors with favorable conditions will probably contribute to the growth and development of digital sports businesses. On the other hand, with the formation of a trade

union system for entrepreneurs in the field of sports, rules and regulations can be formulated to determine the matters related to the organization, as well as duties, powers, limits and rights of individuals, and businesses are thus specified according to this law. The goal and mission of this organization is to regulate the relationship between the private sector and the government in the field of sports entrepreneurship for effective participation in organizing the commercial affairs of sports entrepreneurship.

### CRediT Authorship Contribution Statement

Contribution	Elnaz Kharazmi	Maryam Mokhtari Dinani	Najaf Aghaei
Contextualization	X	X	X
Methodology	----	X	X
Software	X	----	---
Validation	X	X	X
Formal analysis	X	----	----
Investigation	X	X	X
Resources	X	----	---
Data curation	X	X	X
Original	X	X	X
Revision and editing	----	X	X
Viewing	----	X	X
Supervision	----	X	X
Project management	----	X	X
Obtaining funding	----	----	----

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