

University Centres for Entrepreneurial Support and University Sports: A Catalyst for Regional Development and STEM Promotion

Daniel Jochman

Abstract

Purpose of the article: The present article investigates the role of University Centres for Entrepreneurial Support (UCES) in fostering regional innovation ecosystems, with a specific emphasis on the strategic integration of university sport. Utilising the Triple Helix model as a theoretical framework, the study explores the potential contributions of sport-based initiatives, such as the VUT Cavaliers Brno and the “Hokejový souboj univerzit” event, to student engagement, the promotion of STEM subjects, entrepreneurial thinking, and university branding.

Methodology/methods: The research adopts a qualitative, multi-method case study design, combining a PRISMA-guided literature review with long-term field engagement, expert conversations, institutional document analysis, and triangulated impact metrics. The findings are based on an in-depth examination of the Brno University of Technology and the Czech University Ice Hockey League (ULLH), enriched by comparative insights from Qatar and the United States. While the study does not claim statistical generalisability, it incorporates verified quantitative indicators such as media exposure (AVE exceeding CZK 56 million) and attendance (7,700 spectators), providing empirical support for observed patterns.

Scientific aim: The objective of this study is to examine the potential of university sport to function as a catalyst for innovation-oriented education and stakeholder collaboration, with a particular focus on technical universities seeking to enhance their visibility, societal relevance, and entrepreneurial ecosystem linkages.

Findings: The results are structured across four interconnected domains: (1) student recruitment and outreach (*e.g.* Studujahraj.cz), (2) entrepreneurship and experiential learning, (3) stakeholder co-creation through sport, and (4) media visibility and return on investment. The study confirms that sport-based initiatives have the capacity to generate significant communication value, institutional engagement, and brand capital when strategically integrated.

Conclusions: The integration of university sports within entrepreneurial support frameworks provides a high-leverage and scalable model for institutional innovation. Notwithstanding the methodological limitations of the study (*e.g.* lack of formal interview recordings, context-specific case selection), the study contributes original insight into the evolving role of sport in university strategy and opens pathways for further empirical research and policy experimentation.

Keywords: University entrepreneurship, university sports, STEM education, Triple Helix, regional development, entrepreneurial ecosystems, University Centre

JEL Classification: M15, M21

1. Introduction

The contemporary knowledge economy is increasingly dependent on innovation, regional collaboration, and talent development. Universities have evolved into central hubs within entrepreneurial ecosystems, extending their traditional roles to support start-ups, innovation and economic development (Etzkowitz, 2008; Audretsch, 2014).

However, contemporary universities are confronted with a significant challenge: a persistent decline in interest in STEM (science, technology, engineering, and mathematics) disciplines, particularly among younger generations and underrepresented groups (Mana, 2023). This decline has significant long-term consequences, including reduced innovation capacity and talent shortages.

One approach that has potential but remains to be fully explored is the utilisation of university sports as a component of the entrepreneurial support environment. The integration of sports into academic life has been demonstrated to engender heightened student engagement, whilst concomitantly promoting the university's brand and engendering new spaces for teamwork, leadership and innovation. The integration of sports with entrepreneurial education and STEM activities represents a novel strategy with which universities can foster connections with students, particularly Generation Z, and cultivate robust regional networks.

The present paper focuses on the potential contributions of UCES, in conjunction with university sports initiatives, to regional development, student attraction to technical fields, and innovation support, in accordance with the Triple Helix model.

Economic impact of university sports in the Czech Republic

It is evident that university sports, with a particular emphasis on ice hockey, are assuming an increasingly significant role in

both microeconomic and macroeconomic contexts within the Czech Republic. At the local level, the occurrence of sporting events at university level has been demonstrated to exert a significant impact on the urban economy. The recent initiative by the city of Prague and four partner universities—Czech University of Life Sciences (ČZU), Czech Technical University (ČVUT), Charles University (UK), and University of Economics (VŠE)—to construct a dedicated ice hockey stadium is indicative of the growing economic and strategic significance of student sport. The proposed arena, with a planned capacity of approximately 2,000 spectators, is intended to serve university teams, youth academies, and national para ice hockey teams (iRozhlas, 2025).

From a microeconomic perspective, such infrastructure projects contribute directly to local consumption by increasing demand in hospitality, services, and transportation during game days. Furthermore, these enterprises have been found to generate part-time employment opportunities for students and local residents. It is evident that university sport has the capacity to stimulate entrepreneurial collaboration through sponsorships and events, thereby involving local businesses and community stakeholders.

From a macroeconomic perspective, the long-term impact of university sports on national competitiveness is a significant consideration. The integration of sports into educational ecosystems has been demonstrated to engender enhanced physical and mental well-being among students, culminating in improved educational outcomes and labour productivity. Furthermore, sports have been shown to offer a socially inclusive platform that supports gender equality and civic engagement. These factors contribute to national social capital and economic resilience (Etzkowitz, 2008; Raupp, 2021).

Consequently, the incorporation of university sports into the national innovation system ought to be regarded not solely as

a social investment, but also as a development-oriented strategy with demonstrable economic returns.

International comparison – NCAA Model

The United States serves as a prominent global exemplar of how university sports can function as a significant economic and social catalyst. The National Collegiate Athletic Association (NCAA) system, which governs collegiate athletics in the United States, generated approximately \$13.6 billion in revenue in 2022, surpassing the earnings of several professional sports leagues. These revenues are derived from television rights, sponsorships, ticket sales, and merchandise (Morones Analytics, 2023).

High-profile conferences such as the Big Ten hold broadcasting contracts worth over \$2.6 billion, and institutions such as Ohio State and the University of Michigan operate sports departments that rival professional clubs in scale. It is evident that National Collegiate Athletic Association (NCAA) championships, particularly in football and basketball, consistently garner nationwide viewership and stimulate substantial economic activity in the host cities (Go Game Change, 2024).

In 2021, legislative changes enabled student-athletes to monetise their name, image and likeness (NIL), resulting in an estimated \$917 million in direct earnings in the first year of implementation (Finn Partners, 2024). These reforms underscore the potential of sports to empower students economically, while concurrently enhancing university brand value and stakeholder engagement.

Conversely, the Czech Republic is in the nascent stages of integrating sports into its academic and economic systems. Projects such as the planned university ice hockey stadium in Prague mark the beginning of a more systematic approach. Despite its reduced scale, the Czech model has the capacity to assimilate pivotal principles from the NCAA framework, encompassing

commercialisation, performance evaluation and the cultivation of regional partnerships.

2. Theoretical background

The theoretical framework of this paper is based on the interplay between entrepreneurship, university sports, and innovation ecosystems. The Triple Helix model (Etzkowitz, 2008) places significant emphasis on the collaboration between academia, industry, and government as a fundamental aspect of fostering innovation and regional development. In this structure, universities function not only as knowledge producers but also as active facilitators of entrepreneurial and social change.

The concept of the entrepreneurial university (Audretsch, 2014; Guerrero, Urbano, 2012) further expands this perspective by positioning universities as proactive agents that integrate entrepreneurial thinking into their missions. It is evident that entrepreneurial universities develop internal support mechanisms, such as University Centres for Entrepreneurial Support (UCES), which serve as experimental platforms for transferring knowledge to practice (Bedő *et al.*, 2020). These centres play a critical role in promoting regional entrepreneurship, even in resource-constrained settings, by fostering innovation, partnerships, and social engagement (Saha *et al.*, 2023).

It is evident that sports, which are conventionally linked with recreation and branding, are progressively acknowledged as conduits for entrepreneurial activity and innovation within university ecosystems. Recent studies (Ratten, 2011; Raupp, 2021) demonstrate that sports management, sports marketing, and the commercialisation of university sports initiatives generate entrepreneurial opportunities for students and institutions. It is evident that university sports play a pivotal role in nurturing entrepreneurial ecosystems by offering authentic learning environments

that facilitate innovation in domains such as sports technology, event management, sponsorship acquisition, and digital fan engagement.

Furthermore, sports provide a distinctive environment for interdisciplinary collaboration and engagement in STEM subjects. Initiatives such as Qatar's Science in Sports programme (Ali *et al.*, 2021) demonstrate how integrating sports and science enhances educational outcomes, fosters interdisciplinary learning, and stimulates entrepreneurial ventures in technology, health sciences, and sustainability fields. For instance, Qatar has facilitated the development of technologically advanced equipment and analytical tools designed by students in collaboration with sports scientists, providing opportunities for real-life innovation experiences.

The predominance of Generation Z within the higher education demographic underscores the necessity for entrepreneurial and technology-enhanced approaches. Research indicates that Generation Z students prioritise practical skills, employability, digital competence, and social responsibility when selecting academic programmes (Financial Times, 2024). Their inclination towards interactive, technology-supported, and project-based learning environments (The EvoLLLution, 2023) finds perfect alignment with the innovation-driven, entrepreneurial university model that integrates sports as an educational and developmental tool.

The utilisation of collaborative platforms, gamification strategies, and project-based learning has been demonstrated to enhance student engagement and to create tangible opportunities for acquiring practical experience. Within the domain of university sports, student participation encompasses roles such as event management, marketing, public relations, team operations, and the development of sports innovation prototypes. Students who assume leadership roles within university teams, including those

responsible for communications, logistics, or business development, can acquire experience that is analogous to that of an internship. This experience serves to integrate academic knowledge and labour market readiness, thereby facilitating the transition of students into the workforce.

Consequently, the integration of university sports within entrepreneurial support frameworks and innovation ecosystems confers a strategic advantage upon educational institutions. It enables them to meet the evolving needs of students, strengthen regional innovation capacity, and leverage sports as a catalyst for academic, economic, and social development.

Recent empirical research highlights the enduring professional advantages associated with athletic participation during adolescence. As demonstrated by Kniffin *et al.* (2015), individuals with a background in secondary school sports exhibit significantly stronger leadership capabilities, higher self-confidence, and enhanced team orientation in workplace settings. These traits manifest not only in the initial stages of one's career but also persist as consistent behavioural patterns over time. The authors conclude that former athletes tend to be more employable and effective collaborators, often assuming leadership roles in team-based environments. These findings lend support to the notion that athletic experience fosters soft skills that are highly transferable to organisational contexts, thus providing a compelling case for employers to consider athletic backgrounds as a strength in recruitment and development strategies. (Kniffin *et al.*, 2015)

The integration of sports into university ecosystems can also be understood through the lens of sport entrepreneurship. According to Ratten (2018), entrepreneurial behaviour is naturally fostered in sports environments through activities such as event organisation, team management, sponsorship acquisition, and innovation with digital media. These processes mirror

real-world business practices and provide students with hands-on experience in leadership, decision-making, and risk-taking. Consequently, sports function not only as recreational or branding platforms but also as dynamic spaces for developing entrepreneurial competencies.

Recent advancements in the domain of sport entrepreneurship underscore the significance of adaptability and innovation within sports settings. Hayduk III (2020) posits that future models of sport entrepreneurship must be grounded in flexibility, creativity, and interdisciplinary cooperation. This standpoint is of particular pertinence within university settings, where students are encouraged to engage with academic and practical domains. The integration of sport-based entrepreneurial thinking into university curricula has the potential to facilitate the development of novel educational models that reflect emerging trends in both business and student engagement.

Tickell's (2024) study offers a comprehensive foundation for understanding sport entrepreneurship, emphasising its expanding significance within academic and applied contexts. It is noted that the field in question successfully integrates traditional business theory with the unique characteristics of sport, including passion-driven participation, community identity, and real-time decision-making. It is evident that these characteristics render sport entrepreneurship a potent instrument for engaging students in innovation-focused endeavours. Within the university context, this translates to opportunities for students to test entrepreneurial ideas in live environments, whether through managing teams, hosting events, or experimenting with sport-tech start-ups.

From the perspective of the Triple Helix model, the sports environment represents a strategic intersection of all three institutional spheres. The programme has been shown to engender entrepreneurial development in students and to facilitate experiential

learning in a real-world setting. From a business perspective, the initiative presents a valuable opportunity for branding and direct engagement with prospective talent. For universities, it serves as a platform to attract applicants, enhance their societal impact, and remain competitive in a rapidly changing educational landscape.

Empirical studies provide further support for the theoretical foundations. For instance, Holienka *et al.* (2018) demonstrate that university athletes exhibit a significantly higher entrepreneurial propensity compared to non-sport students. In a similar vein, Pervun (2022) corroborates the notion that engagement in competitive sports is conducive to the development of entrepreneurial intention. In a related area of research, Bellver (2022) identifies a higher entrepreneurial inclination among physical education students, thereby reinforcing the sport-STEM engagement model. In their 2023 systematic review, Pellegrini *et al.* (2023) present a meta-perspective, delineating four thematic clusters within the domain of sport entrepreneurship. These thematic clusters, as delineated by the researchers, encompass the theoretical foundations, environmental antecedents, pedagogical approaches, and societal impact of sport entrepreneurship. By offering this structured lens, Pellegrini *et al.* (2023) provide a framework for the evaluation of the contributions of this study.

3. Methodology

The present study employs a qualitative, multi-method case study design, combining long-term field engagement with thematic analysis and media evaluation. The approach encompasses a structured literature review, expert conversations, institutional data analysis, and stakeholder collaboration, with the objective of examining the contribution of university sports to innovation ecosystems and STEM outreach.

3.1 Literature Review

The theoretical framework was established using a PRISMA-guided literature review focused on publications from the past decade. Academic databases such as Scopus, Web of Science, and Google Scholar were queried using keywords related to university entrepreneurship, Triple Helix collaboration, student sport, and STEM education. This step involved the identification of conceptual gaps and the selection of relevant empirical studies.

3.2 Case Selection and Research Context

The primary case study focuses on VUT Cavaliers Brno, the ice hockey team representing the Brno University of Technology. The team's function as a practical interface between student sport, innovation culture, and institutional communication is of particular significance. The selection of the case study was informed by its distinctive positioning within the context of the University Ice Hockey League (ULLH), its pioneering role in student-driven initiatives, and the author's sustained involvement, which facilitated privileged access to internal data and stakeholder networks. To enhance the contextual validity of the findings, complementary comparative references from the USA and Qatar were incorporated.

3.3 Expert interviews and informal conversations

In the period between 2021 and 2024, the author conducted a series of informal and semi-structured expert interviews with stakeholders from the academic, public, and business sectors who were involved in university entrepreneurship, innovation policy, and university sports.

The interviewees included:

- Leaders of universities, including rectors, vice-rectors, deans, and department heads responsible for education, sport, and innovation agendas, were invited to attend (primarily from the Brno University of Technology and ULLH-affiliated institutions).

- The following individuals are included in the study: league managers and organisers of the Czech University Ice Hockey League (ULLH), as well as representatives from several member teams with whom the author has maintained long-term collaboration. These include HC MUNI, ČVUT Engineers Prague, ZČU Akademici Plzeň, VŠE Falcons Prague, UK Kings Prague, and BO Ostrava. The author also engaged in regular working interactions with ULLH league officials, including Tomáš Hlaváč (Managing Director), Vilém Fraňek (Chief Marketing Officer), and other executive members responsible for media, branding, and institutional cooperation.
- The following individuals were present as representatives of public institutions: Ondřej Šebek, who is the Chairman of the Czech National Sports Agency and co-founder of the ULLH.
- It is evident that student leaders play a pivotal role in the management of partnerships, the coordination of fan engagement, and the operation of platforms such as Studujahraj.cz.
- Private sector partners were engaged in brand activations, marketing pilots and technology testing within university events.
- The interviews were conducted during a variety of settings, including workshops, project meetings, university competitions, and national sport forums. Despite the absence of audio recordings due to the informal nature of the subjects under study, detailed field notes were taken and analysed using inductive thematic coding. A total of approximately 30 interactions between stakeholders were documented, providing insight into recurring issues such as student recruitment, institutional branding, and stakeholder cooperation.

3.4 Quantitative indicators and triangulation

Despite being grounded in qualitative research, the study integrates key quantitative

indicators to triangulate insights and support the credibility of findings.

The following are included: The attendance figures for the “Hokejový souboj univerzit” event have been recorded, with 7,700 spectators being present in 2023. It is estimated that the Advertising Value Equivalent (AVE) of this media campaign is in excess of CZK 56 million, with this value being generated through earned media. Engagement data from social media platforms such as Instagram (for example, posts with 20,000+ views) is a valuable source of information. The following data has been collated from Studujahraj.cz: internal ticketing data, volunteer statistics, and campaign reach. These indicators were not analysed statistically; rather, they served to validate qualitative observations and evaluate communication reach and public engagement impact.

3.5 Research limitations

In consideration of the intrinsic nature of the author’s role within the study and the qualitative methodology employed, the research does not assert generalisability. The findings should be interpreted as context-specific insights, derived from a unique combination of internal access and stakeholder collaboration. The absence of recorded interviews and formal surveys is acknowledged as a limitation, although this is mitigated by triangulation, document analysis, and systematic note-taking practices.

3.6 Quantitative indicators of impact

Despite the fact that the study is chiefly qualitative and interpretative in nature, it incorporates substantiated quantitative indicators that facilitate triangulation of findings and contextualisation of the communication and outreach performance of university sports initiatives.

The following data were obtained from the case study of VUT Cavaliers Brno, especially in relation to the flagship event “Hokejový souboj univerzit 2023” and the connected media campaign: The following data

pertains to the subject’s attendance at events: The match attracted 7,700 spectators, thus filling DRFG Arena in Brno to full capacity. This event thus became the most significant university sports event in the Czech Republic at that time. The venue has been utilised on a regular basis by Kometa Brno, a team that currently competes in the top-tier Czech Extraliga, thereby augmenting the event’s perceived prestige.

The Advertising Value Equivalent (AVE) is a metric used to determine the value of advertising to consumers. As indicated by third-party media monitoring, the total AVE generated by the 2023 edition of “Hokejový souboj univerzit” exceeded CZK 56 million within a 9-day media window. The AVE covered earned media across television, print, online news portals, and social media.

The return on investment (ROI) is a key metric in evaluating the financial performance of an investment. The internal campaign evaluation, which was based on sponsor contributions and earned visibility, indicated a minimum ROI of 3:1. However, it was observed that some partner activations exceeded 6:1, particularly in cases of cross-platform integration and viral reach. The estimates of return on investment were calculated using industry benchmarks and in cooperation with media and communication partners.

The media outputs are as follows: The event received extensive coverage on national television (ČT sport), major news websites (e.g. iDnes.cz or Deník.cz), and social media platforms. The creation of visual assets, trailers, and video content was a collaborative effort involving student volunteers and external agencies, yielding a substantial volume of interactions and shares, as evidenced by Meta Business Suite and internal statistics.

The comparative value is as follows: In the context of benchmarking exercises, the AVE generated by the “Hokejový souboj univerzit” event pre-eminently exceeded the combined value of all previous university-level sport campaigns in the region, thereby

Table 1. Overview of research steps and key outputs. Summarises the methodology from literature review to media impact analysis with case-based findings.

Research Step	Key Output
PRISMA – guided literature review	Identified research gap on linking sports and entrepreneurship in STEM
Internal data collection (BUT, ULLH, Contribute)	Enrolment data trends, sports program outlines, institutional strategies
Semi-structured stakeholder interviews	Insights on university priorities, innovation barriers, stakeholder interest
Case studies (Czechia, Qatar, USA)	Best practices: Cavaliers Brno, SIS Qatar, NCAA monetization & branding
Media & AVE impact analysis	AVE = CZK 56M vs. cost of traditional paid campaigns; ROI benchmark

positioning the event as a flagship example of media-based university engagement.

While this data does not represent statistical analysis in the academic sense (e.g. regressions or hypothesis testing), it provides empirical weight to the qualitative observations. The metrics presented herein demonstrate the potential of university sport to generate not only social and institutional benefits, but also measurable communication and branding impact.

4. Results

The following section is dedicated to the presentation of the study’s findings, which have been meticulously organised into five distinct thematic areas. These thematic areas have been derived from a comprehensive array of sources, including long-term field observations, stakeholder conversations, in-depth internal data analysis, and practical experience in the management of university sports initiatives. The structure is reflective of the core pillars of the research: student engagement, entrepreneurial learning, institutional partnerships, and communication impact.

4.1 Strategic visibility and student engagement

It has been repeatedly posited that university sports represent a high-impact tool for

increasing institutional visibility and engaging students in ways that extend beyond traditional academic channels. The primary event, entitled Hokejový souboj univerzit 2023 (English: University Hockey Competition 2023), was organised by VUT Cavaliers Brno and hosted in the Winning Group Arena, the largest indoor venue in Brno and the home of professional team HC Kometa Brno, which plays in the Czech Extraliga.

The event attracted a full complement of 7,700 spectators, thus establishing itself as the most attended university sports event in the Czech Republic. This unprecedented turnout clearly demonstrates the growing potential of university sports as a platform for outreach, branding, and community engagement.

As indicated by the findings of the internal audience analysis, the proportion of first-year students among the attendees was found to exceed 60%, thereby suggesting a high level of orientation and onboarding potential. Informal conversations with members of university staff corroborated the hypothesis that events of this magnitude facilitate the establishment of an affiliation with the university brand, thereby fostering a heightened sense of student belonging.

Furthermore, the student-led outreach campaign Studujahraj.cz, developed by Cavaliers Brno as a secondary communication initiative, served to reinforce the visibility effect by

combining sports narratives with messaging that promotes technical education and STEM engagement. The campaign functioned as an auxiliary recruitment and communication channel for Brno University of Technology.

4.2 Entrepreneurial and STEM integration

A comprehensive investigation encompassing both stakeholder interviews and internal observations indicated that university sports environments possess a distinctive capacity to function as experimental platforms for the exploration and development of entrepreneurial endeavours. Students engaged in Cavaliers Brno operations, including marketing, ticketing, logistics and media, have been afforded the opportunity to acquire experiential learning in a real-world setting. These roles are analogous to entrepreneurial activities, including event planning, partner negotiation, and content creation.

Concurrently, sports-based formats were utilised to present STEM subjects through applied, technology-enhanced challenges. For instance, students worked on augmented reality fan activations, virtual try-ons, and prototype testing of IoT-enhanced equipment. These activities offered interdisciplinary learning experiences and aligned with the goals of BUT's Contribute project, which links student innovation with sustainability and entrepreneurial competencies.

Stakeholders emphasised that this integration helps to make STEM education more accessible and attractive to Generation Z students, who prefer experiential and socially connected learning environments.

4.3 Triple helix partnerships and regional positioning

A close examination of case studies and stakeholder feedback reveals a growing trend of institutional and regional integration of university sports. The Cavaliers Brno model, in conjunction with the league-wide collaboration within ULLH, facilitates active

engagement between universities and public institutions, corporate partners, and local innovation hubs.

Examples include:

- Collaboration with commercial entities to facilitate activations during high-visibility games;
- The establishment of a strategic cooperative relationship with the South Moravian Innovation Centre (JIC) is hereby proposed; and
- Collaboration with the National Sports Agency on subjects pertaining to youth development and sports infrastructure.

These interactions reflect the Triple Helix model in practice, whereby academia, industry and government intersect through sports platforms to drive innovation, community engagement and regional visibility.

4.4 Communication impact and outreach metrics

The events organised by the university sports department were effective in terms of communication, with quantifiable results in terms of marketing and a clear alignment with contemporary frameworks for audience engagement. The SEE–THINK–DO–CARE model was utilised as an interpretive lens to analyse outreach strategies and touchpoints across various audience segments.

SEE: It is evident that awareness-stage messaging was achieved through extensive media exposure. The “2023 Hokejový souboj univerzit” event attracted in excess of 7,700 in-person attendees and secured an Advertising Value Equivalent (AVE) of more than CZK 56 million within a nine-day period. The earned media coverage encompassed a range of platforms, including television, print, online, and radio.

THINK: It is evident that this phase was addressed through the implementation of student-targeted branding content and informational campaigns, of which Studujahraj.cz is a prime example. The initiative

communicated educational values and promoted STEM programmes, thereby helping prospective students to connect with university narratives.

DO: It is recommended that action-oriented goals, including but not limited to event attendance, merchandise sales and follower growth, be supported through the implementation of structured calls to action within social media campaigns and ticketing activations. In the space of 48 hours, all tickets for the principal event had been sold.

CARE: The long-term brand loyalty of the alumni was reinforced by various factors, including engagement, community-building efforts, and sustained cooperation with partners. It was noted in internal communications from the university communications team that there had been an increase in the number of applications, and that sponsors and media had made repeated requests for collaboration.

From the perspectives of marketing and strategic communication, the

SEE–THINK–DO–CARE framework provided a pragmatic approach to aligning messaging with the user journey and monitoring performance across campaign stages. This analytic structure has been instrumental in substantiating the hypothesis that meticulously executed university sports events can generate substantial multi-phase communication impact at a comparatively modest cost when contrasted with commercial campaigns.

5. Discussion

Combining UCES with sports initiatives creates multifaceted benefits:

- **Strategic Synergy:** The provision of infrastructure and support mechanisms by UCES is complemented by the provision of visibility and community access through sports.
- **Talent Attraction and Retention:** The integration of sports with STEM and entrepre-

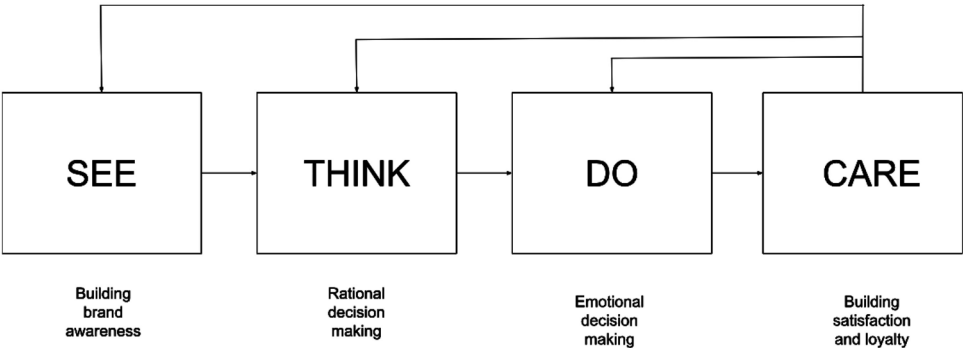


Figure 1. SEE–THINK–DO–CARE model applied to university sports marketing. Source: Kaushik, (2015).

Table 2. Communication performance metrics.

Metric	Value
Event attendance	7,700
AVE (CZK)	56,000,000
Production cost (CZK)	2,500,000
Sponsor ROI	3:1 – 6:1
Media Impression	1,200,000

Source: Author’s own elaboration based on event data (HSU Brno, 2024).

neurship disciplines can serve as a strategy for universities to attract a more diverse student body and cultivate future-ready regional talent pools.

- The present study explores the notion of global relevance. The model has been shown to be adaptable across different regions. For instance, case studies from the USA, the Czech Republic, Qatar, and Canada demonstrate its scalability.
- The institutional implications for BUT.
- The Cavaliers Brno initiative demonstrates the potential of sports to enhance institutional reputation, engage community and industry stakeholders, and function as a testbed for innovation-driven education. Its alignment with the university's third mission supports the overall strategic vision of regional engagement. The available data on outreach, innovation, involvement, and social media appear to demonstrate the scalability and long-term potential of this approach.

A significant outcome of this initiative is the generation of high-impact, low-cost marketing value for external stakeholders. For instance, the University Hockey Match in Brno (Hokejový souboj univerzit) achieved an Advertising Value Equivalent (AVE) of nearly CZK 56 million over a period of just nine days. For sponsors, this represents a highly efficient return on investment, particularly when targeting Generation Z as both consumers and future professionals. The strategic value of media exposure in this context is multifaceted, encompassing objectives such as brand development, enhanced product visibility, and talent acquisition. This underscores the pivotal role of university sports within the broader Triple Helix framework, making them a potent catalyst for achieving strategic goals.

A practical illustration of this phenomenon is provided by an augmented reality (AR) marketing activation that was implemented during a university hockey match. The

university team management collaborated with a commercial stakeholder to present a live Virtual Try-On feature on the stadium's large screen. Spectators were granted the opportunity to evaluate virtual cosmetic products in real time and gain access to the partner's mobile application via a QR code. The core KPI of this campaign was the number of app downloads, with a focus on digital engagement and direct conversion.

This activation exemplifies a disruptive form of brand engagement, which interweaves live sports events with digital commerce. It also represents a pioneering example of experiential learning and co-creation between students and potential employers, underscoring the educational and entrepreneurial value of embedding innovation directly within student-led sports ecosystems.

5.1 Comparative context and literature alignment

The findings of this study are in alignment with and a complementary addition to several extant works across the fields of university branding, entrepreneurial learning, and innovation ecosystems. For instance, previous research has examined the manner in which collegiate sports contribute to institutional branding, a finding that is consistent with the observed AVE impact and the identity-building role of the Hokejový souboj univerzit. Ratten (2011) emphasised the role of sports in fostering entrepreneurial thinking, an effect mirrored in the VUT Cavaliers' engagement with student-led innovation and peer-led initiatives. The broader institutional collaboration observed within the Triple Helix framework is further supported by Etzkowitz, Leydesdorff (2000), whose model of university–industry–government interaction aligns with the role of public and private partnerships in this context. Furthermore, Popp *et al.* (2016) describe NCAA-driven brand loyalty through structured messaging, a concept which is closely reflected in this study's SEE–THINK–DO–CARE strategic communication approach.

These comparative insights serve to validate the broader applicability and academic grounding of the study's observations.

5.2 Managerial and policy implications

The study provides actionable implications for university leaders, policymakers, and innovation managers. The integration of university sports into strategic entrepreneurial frameworks has the potential to function in a number of ways.

- It is imperative to note that the recruitment and branding tools have been meticulously tailored to align with the expectations of Generation Z.
- In the following discussion, the focus will be on platforms for student-led innovation and STEM outreach.
- Instruments of regional engagement supporting the Third Mission of universities.

It is recommended that policymakers consider the implementation of targeted funding schemes, cross-sector partnerships, and national strategies that facilitate the integration of education, sport, and innovation policy.

6. Conclusion

The present paper puts forward the argument for a redefinition of university entrepreneurial ecosystems, with the aim of including sports as a strategic component. When aligned with university sports initiatives, UCES offers a powerful vehicle for promoting STEM, regional development, and sustainable innovation. It is recommended that future research endeavours concentrate on longitudinal studies, cross-country comparisons, and the role of digital transformation in scaling such integrated models.

The present study examined the manner in which university sports, when integrated with University Centres for Entrepreneurial Support (UCES), can serve to strengthen the role of universities in regional innovation

ecosystems. The theoretical reflection and practical case studies, especially from the Czech Republic, demonstrated that university sports are more than mere extracurricular activities; they serve as platforms for visibility, innovation, and engagement.

The research suggests that when combined with UCES, sports initiatives help universities to attract new types of students, especially from Generation Z, and offer them practical, tech-based learning experiences. The occurrence of sporting events has been demonstrated to engender opportunities for branding, community involvement, and entrepreneurship. When meticulously structured, these events have the potential to contribute to long-term institutional goals, including regional development and knowledge transfer.

Examples such as Cavaliers Brno and the “Hokejový souboj univerzit” event demonstrate the potential of this model. These cases illustrate high levels of public engagement, low-cost media value, and innovation potential through technology-driven partnerships. The incorporation of commercial entities, local authorities, and student teams within these initiatives serves to illustrate the Triple Helix model in action.

While the benefits are evident, several challenges remain. These include the necessity for impact measurement over time, wider institutional support, and more inclusive access to sports-related entrepreneurial opportunities. It is recommended that future research endeavours concentrate on the more systematic evaluation of outcomes, the exploration of models from a broader range of countries, and the development of methods for enhanced integration of sports into the academic mission of universities.

Notwithstanding the valuable insights offered by this study, it is important to acknowledge the limitations of the research. Firstly, the qualitative nature of the study and the author's embedded position within the case study (Cavaliers Brno) may

introduce subjectivity. While field-based research is known to provide depth and authenticity, the absence of structured, generalisable quantitative data limits the extrapolation of findings. Secondly, the case studies were predominantly drawn from a single national context (Czech Republic), which may not fully capture the diversity of institutional frameworks in other countries. It is evident that the long-term socio-economic impact of these initiatives remains largely unexplored due to the absence of longitudinal data.

It is recommended that future research place a priority on the development of comparative, longitudinal, and mixed-method approaches to evaluate the long-term effects of integrating sports into university innovation ecosystems. It is imperative to direct particular attention to the following aspects:

- The measurement of the return on investment (ROI) of sports-driven outreach over time using consistent benchmarks (e.g. average value, enrolment in STEM subjects, or employment outcomes) is a subject of current research;

- Cross-country comparisons are utilised to evaluate the scalability of the model in diverse cultural and economic settings; and
- The role of digital platforms (e.g. AR/VR, gamification, or loyalty apps) in extending the educational and entrepreneurial impact of university sports.

It is evident that university sports and UCES represent a promising combination for institutions seeking to innovate in their approach to education, engagement, and regional growth.

The findings of this study highlight a significant opportunity within the Triple Helix model, where the sports environment emerges as a catalyst for connecting institutional missions. The creation of developmental benefits for students, marketing and recruitment potential for businesses, and strategic outreach channels for universities seeking to attract and retain applicants from Generation Z is a key finding of this study. The research suggests that integrating sports with university entrepreneurship frameworks offers a scalable, low-cost, and high-impact model for regional innovation and student-centred education.

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Mgr. Daniel Jochman

Brno University of Technology
Faculty of Business and Management
Department of Management
Kolejní 2906/4, 612 00, Brno,
Czech Republic
Phone: +420 604 623 326
E-mail: daniel.jochman@gmail.com

