

The Role of Higher Education Institutions in Fostering Entrepreneurship and Regional Collaboration: A Stakeholder Perspective from Setubal and Vidzeme

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Abstract

This study explores stakeholder perceptions of the role of Higher Education Institutions (HEIs) in fostering entrepreneurship, knowledge transfer, and regional collaboration in two distinct European regions: Setubal (Portugal) and Vidzeme (Latvia). Using a quantitative, descriptive, and comparative methodology, data was collected through a structured questionnaire targeting academic and regional stakeholders. The analysis focused on two key dimensions: the relationship between HEIs and regional actors, and the relevance of international networks and cross-border cooperation. The results highlight a generally positive perception of HEIs' third mission, their contribution to entrepreneurship, and their engagement in knowledge and technology transfer. Stakeholders particularly valued the role of international collaboration in promoting innovation, mobility, and economic competitiveness. Differences between regions suggest varying levels of institutional maturity and strategic alignment. The findings reinforce the importance of stakeholder engagement in higher education and provide valuable insights for enhancing HEIs' regional impact.

Keywords: Higher Education Institutions, Stakeholders, Entrepreneurship, Knowledge Transfer, Regional Development

Introduction

Higher Education Institutions (HEIs) are increasingly recognized as central actors in regional innovation ecosystems. Beyond their traditional roles in teaching and research, HEIs are expected to engage actively with external stakeholders to foster entrepreneurship, support knowledge transfer, and contribute to socio-economic development. This expanded mission, often referred to as the "third mission" of universities, encompasses responsibilities toward the broader community, industry, and regional development policies.

In the context of growing global competition and the demand for innovation-driven economies, HEIs must cultivate strong ties with regional actors and international partners to drive sustainable and inclusive growth. Stakeholder engagement plays a pivotal role in this process, shaping institutional strategies and enabling effective collaboration. Despite the growing literature on academic entrepreneurship and technology transfer, empirical studies that compare stakeholder perceptions across different European contexts remain limited.

This paper addresses this gap by investigating the perceptions of stakeholders from two contrasting regions — Setubal (Portugal) and Vidzeme (Latvia) — regarding the role of HEIs in promoting entrepreneurship, knowledge transfer, and regional cooperation.

1. Theoretical Framework

1.1. Stakeholder Theory in Higher Education Institutions

Stakeholder theory emerged in the 1980s in response to the increasing complexity and dynamism of organizational environments. The seminal work of Freeman (1984) defines stakeholders as any group or individual that can influence or be affected by the achievement of a company's goals, including public interest groups, government agencies, trade unions, competitors, employees, customers, and shareholders. This approach emphasizes considering all individuals or groups with a stake in the organization within strategic management, aiming to create value for customers, suppliers, owners, employees, and local communities (Freeman et al., 2020). Then, stakeholder engagement signifies a powerful driver for value creation at the firm, stakeholder, and local level (Pucci et al, 2020).

While stakeholder theory has gained significant traction in strategic management research and business practices, further exploration is needed in less examined areas, such as HEIs (Crocco et al., 2022).

HEIs hold a vital role in society, not only for their educational mission but also for their contributions to scientific research and knowledge transfer, which benefit the broader community (Ferrero-Ferrero et al., 2018). The relevance of HEIs can be understood through their stakeholder relationships. Both internal and external stakeholders can impact the goals of higher education (Kettunen, 2015) justifying comprehensive strategies to promote collaboration and engagement.

HEIs have their own specific stakeholders, categorized into different levels of relevance, which requires to address mainly the needs of their primary stakeholders, who significantly impact the future of the institution. For public universities, primary stakeholders include students, prospective students, employees, the Ministry of Education, grant agencies, businesses, other educational institutions (both partners and competitors), and various public groups. In the case of private universities, the primary stakeholders also encompass owners and investors (Tetřevová and Sabolová, 2010). Understanding the relationship between stakeholder engagement, innovation management, and entrepreneurship development is essential to comprehending the focus of these organizations (Leonidou et al., 2020) and knowledge transfer thrives in environments where links and collaborations among diverse stakeholders exist (Vrontis et al., 2017).

Given their complex stakeholder landscape, neglecting these relationships can limit their success and hinder value creation (Kettunen, 2015). Therefore, mapping stakeholders and addressing their interests is crucial for both societal benefit and institutional sustainability.

1.2. HEI stakeholder's and the promotion of entrepreneurship

HEIs are increasingly transforming into management-focused institutions, concerned with navigating global competition by generating profits and creating economic impacts at the local, regional, and national levels, drawing from the knowledge spill over theory of entrepreneurship (Mok, 2015).

The promotion of entrepreneurship in HEIs involves various stakeholders and has significant implications for regional development. Educational organizations cannot operate in isolation; they must prioritize the needs of their stakeholders, especially the primary stakeholders, who significantly impact the future of the institution. Stakeholder involvement in entrepreneurship education is widespread and linked to ongoing educational developments, reflecting diverse individual and community needs (Matlay, 2009). Universities are shifting from their traditional roles of teaching and research to also take on a third role in driving sustainable regional and economic development. By doing so, they foster the sharing of knowledge, which helps enhance sustainable entrepreneurial ecosystems, contributing to the economic revitalization or growth of regions (Wagner et al, 2021). Understanding the relationship between stakeholder engagement, innovation management, and entrepreneurship development is essential to comprehending the focus of these organizations (Leonidou et al., 2020). Knowledge transfer thrives in environments where links and collaborations among diverse stakeholders exist (Vrontis et al., 2017).

Research indicates that HEIs play a crucial role in promoting academic entrepreneurship and fostering entrepreneurial skills among students and alumni. Stakeholders perceive entrepreneurship education as essential for developing practical business skills and creating support networks (Carter & Collinson, 1999), given the expectations on HEIs to respond to societal and economic needs, such as enhancing graduate employability and contributing to economic growth. Additionally, academic stakeholders emphasize the importance of non-formal and informal learning experiences in enhancing entrepreneurial mindsets, where collaborative efforts contribute to building entrepreneurial ecosystems and increasing entrepreneurial spirit among graduate (Marques, 2019).

1.3. Regional Stakeholders

The interaction of regional ecosystem with HEIs is decisive in promoting and catalysing sustainable development and innovation. Whether in terms of technology and knowledge transfer, entrepreneurship, and innovation or in terms of the involvement of companies and investors (Natário & Oliveira, 2024). As the balance of public funding shifts, universities are increasingly required to manage the relationship between knowledge production and its exploitation,

ensuring not only academic value but also societal usefulness and financial sustainability. This implies changes in governance when it comes to manage the HEI third mission (Ruggiero et al., 2022), despite the limited access to market opportunities and commercialization outputs (Suhaimi et al., 2022) as well as researchers' lack of engagement (Bienkowska et al., 2016). Factors such as university-industry collaboration and perceived institutional support can influence this gap type and size of the academic entrepreneur's network, with extra regional networks of non-academic contacts being particularly beneficial (Hayter, 2015).

Other factors such as venture capital, external licenses, outside management, joint ventures, and faculty consulting experience can contribute to the success of academic spin-offs and start-ups. Embracing an open innovation approach appears to be beneficial for spin-off success, emphasizing the importance of external stakeholders and specialized services in the academic entrepreneurship process (Hayter, 2015). Furthermore, collaborative strategies between HEI and local governments and industry are crucial for regional and local development, contributing to the formulation of innovation and governance policies, acting as facilitators to consolidate networks, especially in less developed regions (Fonseca, 2019). On the other hand, as HEI expand their entrepreneurial activities, they increasingly become more reliable sources of specialized talent with an entrepreneurial mindset, enabling regional and local companies to easily access research outcomes with the potential for commercialization and business scaling (Cadorin et al., 2019).

1.4. International stakeholders and networks

Collaborations and stakeholder networks that span across regions in different countries provide numerous benefits. They encourage cultural interaction, support the exchange of knowledge, and strengthen innovation capabilities. These networks enable regions to pool resources, address global challenges, and drive sustainable economic development, by addressing regional disparities collectively (Petite, 2009). Through international engagement and collaboration with stakeholders, HEIs can become key drivers of regional development and innovation, by supporting entrepreneurship education, nurturing entrepreneurial mindsets and fostering the creation of new companies and business models (Paço & Dinis, 2010). Regarding the mobility of HEI students, researchers and professionals, networks between regions play a crucial role in fostering scientific collaboration and knowledge production globally (Hou et al., 2020). Nevertheless, these networks display a pattern of fractal inequality, between wealthier and lower-income countries (Macrander, 2017), raising concerns about equity in higher education policies, especially within the European Higher Education Area (Şahin et al., 2024).

Depending on the region, international stakeholders' networks can vary and have different impacts on the HEI. Overall, HEIs across Europe are adopting stakeholder analysis approaches to enhance their role in local, regional, and national development, although research in this area is predominantly concentrated in Western countries (Syed et al., 2023).

2. Empirical Study

2.1. Research Design

HEIs' are key drivers in fostering regional innovation, entrepreneurship and growth through knowledge generation, research, human capital development, knowledge and technology transfer and building entrepreneurial ecosystems (Natário et al., 2017; Ierapetritis, 2019).

The research employs a quantitative, descriptive, and comparative methodology to investigate the perceptions of stakeholders regarding the involvement of HEIs in fostering entrepreneurship and technology transfer across two distinct regional contexts (Bryman, 2016; Čajka et al., 2023).

2.2. Sample

The research specifically targets representatives from academic institutions, municipal authorities, and other regional actors within the regions of Setúbal and Vidzeme, encompassing a diverse group of 45 stakeholders, strategically selected from HEIs across the designated regions and utilizing a convenience sampling methodology to ensure representation from various sectors (Alves et al., 2010; Bryman, 2016). These participants were carefully categorized into two primary groups to facilitate a comprehensive analysis of their perspectives and contributions (Vrontis et al. 2021). Regional stakeholders comprised representatives from regional planning organizations, municipalities, and business associations, providing insights into the broader socio-economic context in which HEIs operate and their role in regional development initiatives. Academic stakeholders, on the other hand, included lecturers, researchers, and other professionals directly affiliated with the HEIs, offering perspectives on the internal dynamics, academic priorities, and research activities of these institutions. The composition of the sample was designed to capture a holistic view of the interactions between HEIs and their external environment, as well as the internal factors shaping their strategic direction and impact on the region (Labanauskis & Ginevičius, 2017).

2.3. Data collection instruments

To empirically investigate the multifaceted role of HEIs in fostering entrepreneurship, knowledge transfer, and regional development, a structured questionnaire was meticulously designed to gather quantitative data and descriptive insights into the prevailing attitudes and perspectives of key stakeholders (Bryman, 2016; Ierapetritis, 2019; Teixeira & Davey, 2010; Čajka et al., 2023). The core objective of this questionnaire was to evaluate stakeholder opinions on how HEIs contribute to the entrepreneurial ecosystem, facilitate the transfer of knowledge, and promote overall regional advancement, with a central focus on the relationships HEIs cultivate with both local and international actors, examining their impact on strengthening innovation ecosystems and fostering collaborative partnerships (Čajka et al., 2023).

The questionnaire predominantly employed closed-ended questions, utilizing a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), to quantify participant opinions and enable subsequent statistical analysis of the collected data (Bryman, 2016), allowing a systematic and quantifiable assessment of stakeholder perceptions.

The questionnaire was structured into two primary dimensions: "The Relationship of HEIs with the Region and Stakeholders" and "International Networks and Cross-Border Cooperation", with the former designed to assess the extent of HEIs' engagement with regional stakeholders and their contribution to socio-economic development, while the latter sought to understand the impact of international networks on promoting innovation, mobility, and regional competitiveness (Deveci & Seikkula-Leino, 2023).

The "Relationship of HEIs with the Region and Stakeholders" dimension encompasses multifaceted interactions, extending beyond traditional academic functions (Mertkan et al., 2016). This dimension is further delineated into four thematic areas: "Governance and Third Mission of HEIs," "Technology and Knowledge Transfer," "Entrepreneurship and Innovation," and "Liaison with Companies and Investors." The "Governance and Third Mission of HEIs" sub-dimension evaluates the institutional alignment with regional strategic objectives and commitment to fostering regional development, where the "Third Mission" extends beyond teaching and research to encompass community and economic engagement (Choi & Khamalah, 2017). The "Technology and Knowledge Transfer" sub-dimension scrutinizes the perception regarding HEIs in valuing and commercializing research outcomes, including spin-off creation and translating academic knowledge into practical applications (Kistnasamy, 2014). The "Entrepreneurship and Innovation" sub-dimension focuses on HEIs support for students and researchers in developing entrepreneurial skills and fostering innovative initiatives, examining how HEIs cultivate environments conducive to entrepreneurial ventures and new business creation (Arroyo-Vázquez et al., 2010). The "Liaison with Companies and Investors" sub-dimension explores the interaction between HEIs, companies, and investors, aiming to identify mechanisms through which HEIs facilitate collaboration, knowledge exchange, and investment in regional innovation ecosystems, given that innovation increasingly transcends organizational boundaries, necessitating collaboration among diverse entities (Arena et al., 2021).

The "International Networks and Cross-Border Cooperation" dimension explores cultural exchange, collaborative research, and economic impacts on regional development, emphasizing mobility among students, researchers, and professionals as a driver of mutual understanding and idea and perspectives exchange and cultural nuances between regions (Rodrigues et al., 2022; Munusamy & Hashim, 2020). Furthermore, this dimension examines cross-border partnerships in large-scale projects and best practice dissemination, underscoring the value of collective innovation and shared problem-solving (Nienaber & Wille, 2019). It highlights how networks can foster a culture of knowledge sharing and collective problem-solving and address regional disparities and global challenges through resource pooling and cooperation (Zhou & Kwon, 2020). Finally, it considers the effects of cross-border cooperation on regional economic growth and the competitiveness of firms, acknowledging that interconnectedness can stimulate economic activity, enhance productivity, and create new opportunities for businesses to thrive in a globalized marketplace (Pradeep, 2021).

2.4. Procedures

The data collection process was meticulously designed to ensure the reliability and validity of the research findings. Following the questionnaire's development, experts in higher education and regional development validated it, and the application phase was carefully planned, paying close attention to ethical, logistical, and methodological considerations (Bryman, 2016). The questionnaire was made available digitally via an online platform, which allowed potential participants to access it easily and widely.

The questionnaire was disseminated via email using the HEIs' institutional networks and direct contact with partner organizations in the regional innovation and development ecosystems. The invitation to participate included a clear explanation of the study's objectives, a guarantee of data anonymity and confidentiality, and the option to withdraw at any time (Bryman, 2016). Data collection took place during December 2024, allowing participants sufficient time to respond thoughtfully and to maximize response rates (Castro, 2023). After the data collection phase was completed, the information was prepared for analysis. The methodology was carefully designed to ensure that the questions were as neutral and objective as possible, minimizing potential response bias (Bryman, 2016). Furthermore, the research

team was aware of the potential for social desirability bias, in which respondents may provide answers that they believe are more socially acceptable or desirable, rather than their true beliefs or behaviours.

2.5. Data Analysis

This study adopts a quantitative, descriptive, and comparative approach to explore stakeholder perceptions of the role of HEIs in fostering entrepreneurship, knowledge and technology transfer, and regional cooperation. The analytical framework is based on descriptive statistics, with a focus on calculating means to discern dominant trends and response patterns, with the support of Microsoft Excel and SPSS to organize, process, and compare the collected data across the two distinct regions (Bryman, 2016). The study seeks to uncover nuanced understandings of how these institutions are perceived to contribute to regional development and global engagement, with a specific focus on the role of HEIs in generating entrepreneurial capacity (Teixeira & Davey, 2010).

Furthermore, the data was analysed by previously defined thematic dimensions, corresponding to the following axes:

1. The relationship of the HEI with the region and Stakeholders:

- Promotion of the third mission of the HEI
- Technology and knowledge transfer
- Entrepreneurship and innovation
- Involvement of companies and investors

2. International networks and cross-border collaboration

- Cultural exchange and mobility
- Collaboration in research, innovation, and knowledge sharing
- Cooperation for development and tackling global challenges
- Economic impact and competitiveness

By understanding the perceptions of various stakeholders in Setubal and Vidzeme, this research aims to provide valuable insights for HEIs and policymakers, which can inform strategies to enhance the role of universities in regional development and international collaboration (Munusamy & Hashim, 2020).

3. Results and discussion

3.1. Sample characterisation.

Regarding the sample represented, we can see in Table 1 below that most participants (31) were municipal representatives. In contrast, participants from HEIs were less represented, with a higher concentration in the Setubal region (13) compared to Vidzeme (1). This suggests a more institutionalised involvement at the municipal level in Portugal.

Table 1 – Participant profile by region

Variable	Category	Setúbal (n)	Vidzeme (n)	Total
Participant profile	HEI	13	1	14
	Municipality	7	24	31
Gender	Female	13	18	31
	Male	7	7	14
Age	< 35 years	0	5	5
	35 – 44 years	9	15	24
	45 – 54 years	8	4	12
	55 – 64 years	3	1	4

Academic degree	High school	0	5	5
	Associate degree	0	1	1
	Bachelor's degree	4	8	12
	Master's degree	7	11	18
	Doctorate	9	0	9

Regarding gender, the sample is predominantly composed of women (31), compared to 14 men, with both genders evenly distributed between Setubal and Vidzeme. As far as age is concerned, most of the respondents are between 35 and 54, with the 35-44 age group standing out, particularly in Vidzeme. The lack of participants under the age of 35 in the Setubal region may indicate that younger stakeholders are less involved there.

In terms of academic qualifications, higher education is predominant, with 18 participants holding a master's degree and 9 a doctorate. The Setubal region stands out for the number of PhDs (9), while Vidzeme has a majority with a bachelor's degree and no PhDs, reflecting possible differences in the academic and institutional profile between the regions.

4.2 Results by Dimension

A. The HEI's relationship with the region and stakeholders

The relationship between HEIs and their surrounding ecosystem plays a decisive role in promoting sustainable regional development and boosting innovation. In this section, four key subdimensions are analysed (Table 2) which assess how HEIs articulate with the different regional stakeholders: i) the role of institutional governance and public authorities in promoting the third mission of HEIs; ii) access to market opportunities for the valorisation of knowledge and technology transfer; iii) training for entrepreneurship and support for the development of spin-offs and start-ups; and iv) the involvement of companies and investors with HEIs. This analysis makes it possible to understand the degree of integration of HEIs in the region, as well as to identify opportunities for strengthening their mission of socio-economic impact.

Table 2 – Perception in “the HEI's relationship with the region and stakeholders” (average of responses)

Subdimensions	Affirmations	Setúbal	Vidzeme	Total
i) Promoting the Third Mission	The governance of an HEI actively promotes the third mission of HEIs	4.3	3.96	4.11
	The government effectively promotes socio-economic growth and development in collaboration with HEIs.	3.45	3.96	3.73
	Local authorities effectively promote socio-economic growth and development in collaboration with HEIs.	3.30	3.80	3.58
ii) Technology and Knowledge Transfer	HEI researchers/teachers and students have adequate access to market opportunities to commercialise the results of their research.	3.75	3.96	3.87
	HEIs' Technology Transfer Offices effectively support the exploitation of technological opportunities through the creation of spin-offs and/or the transfer of knowledge to the region.	4.05	3.80	3.91
	Companies can easily access the results of research developed at HEIs with commercialisation potential.	3.05	3.80	3.47
iii) Entrepreneurship and Innovation	HEIs train students with the necessary innovation skills and entrepreneurial tools/mentality.	4.15	4.16	4.16
	Start-ups and academic spin-offs have sufficient access to business networks	3.95	4.08	4.02

		Academic spin-offs benefit from specialised services offered by the HEI or its partners.	4.00	3.92	3.96
		Business incubators and science parks provide adequate access to a portfolio of services for the further development of start-ups and academic spin-offs.	3.80	3.96	3.89
iv)	Involvement of Companies and Investors	Investors have access to a diverse and high-potential portfolio of science-based investment opportunities from HEIs.	3.20	3.88	3.58
		Companies see HEIs as a reliable source of highly specialised talent with an entrepreneurial mindset	3.25	3.96	3.64

In the sub-dimension of ‘Promoting the Third Mission’ we can see that stakeholders recognise the active role of HEIs in this mission, especially in Setubal (4.3). However, collaboration with the government (3.73) and local authorities (3.58) varies between regions, with Vidzeme standing out as having better political and institutional articulation.

In the ‘Transfer of Knowledge and Technology’ sub-dimension, we see that the transfer offices are highly rated (3.91), especially in Setubal (4.05). Researchers' access to the market is positive (3.87), but the involvement of companies in the commercialisation of research is limited, especially in Setubal (3.05), pointing to barriers in communication and liaison with the business community.

In the sub-dimension of ‘Entrepreneurship and Innovation’ there is a very positive perception of training in innovation and an entrepreneurial mindset (4.16). Stakeholders value the integration of HEIs into business networks and support services for start-ups and spin-offs (3.96), although there is room for improvement in the articulation and diversity of support.

Finally, in the sub-dimension of ‘Involvement of Companies and Investors’ we see that this is the weakest dimension, with Setubal showing the lowest results. Access to scientific investment opportunities (3.58) and the valorisation of specialised talent (3.64) are more evident in Vidzeme, suggesting the need to strengthen strategic communication and links to the market in Setubal.

B. International Networks and Cross-Border Collaboration

This section explores the benefits of international networks and transnational collaboration, focusing on the regions of Setubal and Vidzeme. Stakeholders' perceptions of the impact of these networks, particularly regarding the mobility of students, researchers and professionals, the promotion of joint research and innovation projects, and the contribution to economic growth and international competitiveness, are analysed. The following table (Table 3) provides a detailed overview of the dynamics that these networks generate, revealing how they contribute to the sustainable development and global competitiveness of the regions involved.

Table 3 – Perception in International Networks and Cross-Border Collaboration (average responses)

Subdimensions	Affirmations	Setubal	Vidzeme	Total
i. Cultural exchange and mobility (students, researchers, entrepreneurs).	... allow for greater cultural exchange and mutual understanding.	4.60	4.36	4.47
	... encourage the mobility of students, researchers, and professionals between the participating regions.	4.55	4.28	4.40
ii. Joint research and innovation projects.	... enable collaboration on large-scale research and innovation projects.	4.50	4.16	4.31
	... promote the sharing of knowledge and the dissemination of best practices across borders.	4.50	4.20	4.33
iii. Sharing good practices and	... enable regions to pool resources and tackle global challenges collaboratively.	4.40	3.80	4.07

	tackling global challenges.	... contribute to sustainable development by collectively addressing regional disparities.	4.40	4.00	4.18
iv.	Economic growth and international competitiveness.	... promote trade partnerships and economic growth through cross-border co-operation.	4.30	3.96	4.11
		... strengthen the global competitiveness of regional companies.	4.30	4.04	4.16

As we can see in Table 3, international collaboration has gained global prominence and is widely valued by stakeholders in Setubal and Vidzeme regions for its positive impacts in areas such as cultural exchange, academic and professional mobility, innovation, and economic development. The data reveals a very favourable perception of the ability of these networks to promote cultural exchanges (average of 4.47), with Setubal showing slightly higher ratings. The mobility of students, researchers and professionals is also highly recognised as an effective means of internationalisation and skills development.

International networks are seen as facilitators of joint research and innovation projects, allowing shared access to resources and knowledge (overall average of 4.31). The role of these networks in disseminating good practices and institutional learning is also valued (4.33), helping to strengthen the scientific competitiveness of HEIs. In addition, their usefulness in co-operation to tackle global challenges and promote sustainable development is highlighted, with Setubal standing out in this perception.

Finally, transnational networks are recognised as driving economic growth and regional international competitiveness (averages of 4.11 and 4.16), with Setubal showing greater maturity in this area. Overall, the results show that these collaborations are seen as strategic instruments for the institutional, territorial, and economic transformation of the regions.

4.3 Discussion

Regarding the sample characterisation it reveals a qualified and diverse sample, suitable for capturing informed perceptions about the role of HEIs in promoting entrepreneurship and technology transfer. The inclusion of participants from different institutional backgrounds also ensures a broad range of perspectives on the regional engagement and impact of HEIs. Most respondents also demonstrated familiarity with knowledge transfer activities and the regional entrepreneurial ecosystem.

The results obtained in the four dimensions analysed in “the HEI’s relationship with the region and stakeholders” show that HEIs play an important role in regional development, although with variations between the two regions studied. Institutional governance and commitment to the third mission are perceived positively, especially in Setubal, although there is room for strengthening articulation with local and national authorities. Valuing knowledge and technology transfer are recognised as areas with potential, but still with challenges in terms of accessibility for companies. In terms of entrepreneurship, the HEIs demonstrate a strong capacity for training and supporting the development of entrepreneurial initiatives, with the offer of support services and networks standing out. Finally, the links with the business community and investors are promising but need to be consolidated to guarantee a more effective flow of talent and innovation. To summarise, the data points to a solid basis for collaboration between HEIs and regional stakeholders, and it is essential to strengthen mechanisms for liaison, support, and communication to boost the socio-economic impact of these institutions.

The results obtained in “International Networks and Cross-Border Collaboration” theme also reinforce the strategic importance of international networks and transnational collaboration for the development of the Setubal and Vidzeme regions. Analysing the stakeholders’ perceptions reveals a generalised positive appreciation of the benefits of these networks, especially regarding cultural exchange, the mobility of students, researchers and professionals, and the promotion of joint research and innovation projects. International co-operation appears to be a fundamental tool not only for cultural enrichment and improving individual and institutional skills, but also as a crucial vector for economic competitiveness and sustainable growth in the regions involved. The more positive perceptions of Setubal compared to Vidzeme suggest a more consolidated previous experience in international cooperation projects and greater institutional maturity. However, both regions recognise the significant impact of these networks in reducing regional disparities and creating collaborative solutions to tackle global challenges. In addition, the role of international networks in promoting economic development, through the creation of business partnerships and improving the global competitiveness of regional companies, is also valued.

In short, the results show that international networks and transnational collaboration are essential for strengthening academic and business institutions, promoting regional integration and alignment with global sustainability and

innovation objectives. By recognising these benefits, the Setubal and Vidzeme regions demonstrate a commitment to building an increasingly robust and effective international collaboration network.

The insights gleaned from this study offer a critical reflection on the pivotal role HEIs play in nurturing entrepreneurship and galvanizing collaborative networks (Roberts et al., 2014). Stakeholder perceptions, meticulously analysed, reveal a growing appreciation for the entrepreneurial function of these institutions, despite the persistent challenges and disparities in practical implementation (Ndou et al., 2018). This study makes a significant theoretical contribution by enriching the discourse surrounding the Third Mission of HEIs, emphasizing the dimensions of entrepreneurship and networking as central expressions of this mission (Heaton et al., 2019). By capturing the perspectives of diverse stakeholders, it adds an empirical dimension to existing conceptual approaches, which often remain excessively focused on the institutional vision of the HEIs themselves. The data underscores that stakeholders recognize that the role of HEIs extends beyond academic training and scientific research, and that these institutions should assume an active function in energizing innovation and entrepreneurship ecosystems (Davey, 2017). This acknowledgment reinforces the model of the entrepreneurial university, where articulation with external agents, including businesses, government, and civil society, becomes essential (Daddi et al., 2020).

The findings suggest areas where policy adjustments and institutional reforms can enhance the contribution of HEIs to entrepreneurial ecosystems. The dynamics of the modern labour market require that higher education students acquire the skills to become independent workers and launch new businesses, it is crucial for universities to provide an ecosystem that fosters entrepreneurship and inspires students to pursue entrepreneurial endeavours (Barrera-Verdugo & Villarroel-Villarroel, 2022). Universities are essential in developing entrepreneurial ideas and attitudes among students and staff, and in initiating entrepreneurial activities within academic institutions (Czerniachowicz & Wieczorek-Szymańska, 2019). They are regarded as key contributors to regional and national economic development by facilitating technology transfer, innovation, and the creation of new ventures (Teixeira & Davey, 2010). Moreover, organizing entrepreneurship and business-based education to prepare independent, innovative, visionary, faithful and globally oriented Human Resources is needed (Hastuti et al., 2020). Furthermore, the entrepreneurial spirit is a key capacity that helps and motivates young people to be more creative and self-confident, and it bolsters a nation's economy by fostering innovation, generating competition, creating jobs and wealth, and increasing purchasing power (Daddi et al., 2020). Entrepreneurship education equips individuals with the knowledge, skills, and attitudes necessary to identify and pursue entrepreneurial opportunities (Citrawandi & Susanto, 2020). It encompasses a wide range of learning experiences, including formal courses, workshops, mentorship programs, and experiential activities such as business plan competitions and start-up incubators (Deng & Wang, 2023).

4. Conclusions

This study highlights the critical role of HEIs in fostering entrepreneurship, knowledge transfer, and international collaboration as core components of their third mission with a focus on stakeholders' perceptions. It was conducted a descriptive study to gather the stakeholders' perceptions from the regions of Setubal and Vidzeme, which reflect a positive view of HEIs' engagement with regional development, particularly regarding support for spin-offs, innovation training, and international networks. These findings align with prior research that emphasizes HEIs' evolving role as entrepreneurial actors within regional ecosystems (Heaton et al., 2019; Davey, 2017).

Differences between the two regions, particularly the stronger institutional maturity observed in Setubal, underscore the influence of contextual factors on HEIs' performance and stakeholder expectations (Ruggiero et al., 2022). Regarding HEIs international cooperation, results suggests that it is seen as a strategic asset for enhancing mobility, knowledge sharing, and economic competitiveness, consistent with findings from Hou et al. (2020) and Petite (2009). Moreover, the results confirm that effective stakeholder engagement – including public authorities, businesses, and civil society – is crucial for building sustainable innovation ecosystems (Leonidou et al., 2020). However, challenges remain, particularly in bridging gaps between research and market applications (Bienkowska et al., 2016; Hayter, 2015), whilst the findings reinforce the importance of embedding entrepreneurship education and cross-sector collaboration into the strategic agenda of HEIs. Doing so not only enhances regional development but also prepares students to become independent, innovative professionals in a rapidly changing labour market (Barrera-Verdugo & Villarroel-Villarroel, 2022).

This study is not without limitations. The relatively small sample size restricts the generalisability of the findings and limits the robustness of comparative analysis, while the use of a convenience sampling method may introduce selection bias, potentially skewing the perspectives represented. These constraints highlight the need for caution when extrapolating the results beyond the studied contexts.

Future research should broaden the geographical scope to include a wider variety of European regions with diverse socio-economic and institutional characteristics. Comparative analyses that account for differences in national policy frameworks supporting academic entrepreneurship could offer richer insights into the conditions that facilitate or hinder HEIs' third mission. Furthermore, longitudinal studies would be particularly valuable in capturing the evolution of stakeholder perceptions over time, especially in response to institutional reforms, shifts in governance, or changes in regional development priorities.

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