


AN INVESTIGATION ON KNOWLEDGE-BASED ENTREPRENEURSHIP IN HIGHER EDUCATION

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ARTICLE INFO	ABSTRACT
<p>Article history:</p> <p>Received 05 June 2023</p> <p>Accepted 28 August 2023</p>	<p>Purpose: This section provides an overview of the article's main objective and scope. It introduces the concept of knowledge-based entrepreneurship in higher education institutions and sets the stage for the research's exploration of its various aspects, including drivers, challenges, and transformative impacts.</p>
<p>Keywords:</p> <p>Knowledge-Based Entrepreneurship; Higher Education; Knowledge Transfer; Innovation; Technology Transfer Offices (TTOs); University-Industry Collaboration.</p>	<p>Theoretical Framework: This section discusses the theoretical underpinnings and concepts that guide the research. It mentions how universities have evolved from traditional knowledge disseminators to hubs for entrepreneurial initiatives and outlines the theoretical foundation upon which the study is built.</p>
	<p>Methodology: This part briefly outlines the research methodology employed in the study. It mentions the systematic analysis of existing literature as the primary research approach and highlights the study's focus on knowledge transfer, collaborative relationships, and the role of Technology Transfer Offices (TTOs).</p>
	<p>Findings: This section summarizes the key findings of the research. It touches upon the pivotal role of universities in the knowledge economy, the mechanisms of knowledge transfer, and the significance of TTOs in facilitating knowledge-based entrepreneurship. It provides an overview of the transformative potential highlighted in the study.</p>
	<p>Research, Practical & Social Implications: This part discusses the broader implications of the research. It highlights how the findings impact academia, industry, and society at large. It mentions the need for collaborative efforts and how knowledge-based entrepreneurship can drive economic growth, technological advancement, and societal progress.</p>
	<p>Originality/Value: This section underscores the uniqueness and value of the research. It emphasizes the contribution of the study to the understanding of knowledge-based entrepreneurship and its role in fostering collaboration between academia and industry. It also mentions the potential for innovation and resilience in the future.</p>
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UMA INVESTIGAÇÃO SOBRE O EMPREENDEDORISMO BASEADO NO CONHECIMENTO NO ENSINO SUPERIOR

RESUMO

Objetivo: Esta seção apresenta uma visão geral do objetivo e âmbito principais do artigo. Ele introduz o conceito de empreendedorismo baseado no conhecimento em instituições de ensino superior e estabelece o cenário para a exploração da pesquisa de seus vários aspectos, incluindo impulsionadores, desafios e impactos transformadores.

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Estrutura Teórica: Esta seção discute os fundamentos teóricos e conceitos que guiam a pesquisa. Ele menciona como as universidades evoluíram dos tradicionais divulgadores de conhecimento para centros de iniciativas empresariais e descreve a base teórica sobre a qual o estudo é construído.

Metodologia: Esta parte descreve brevemente a metodologia de pesquisa empregada no estudo. Ele menciona a análise sistemática da literatura existente como a principal abordagem de pesquisa e destaca o foco do estudo na transferência de conhecimento, nas relações de colaboração e no papel dos Escritórios de Transferência de Tecnologia (TTOs).

Resultados: Esta seção resume os principais resultados da pesquisa. Ela toca no papel central das universidades na economia do conhecimento, nos mecanismos de transferência de conhecimento e na importância dos TTOs em facilitar o empreendedorismo baseado no conhecimento. Apresenta uma visão geral do potencial transformador destacado no estudo.

Pesquisa, Implicações Práticas e Sociais: Esta parte discute as implicações mais amplas da pesquisa. Ele destaca como os resultados impactam a academia, a indústria e a sociedade em geral. Menciona a necessidade de esforços colaborativos e como o empreendedorismo baseado no conhecimento pode impulsionar o crescimento econômico, o avanço tecnológico e o progresso social.

Originalidade/valor: esta seção enfatiza a exclusividade e o valor da pesquisa. Enfatiza a contribuição do estudo para a compreensão do empreendedorismo baseado no conhecimento e seu papel na promoção da colaboração entre o meio acadêmico e a indústria. Também menciona o potencial de inovação e resiliência no futuro.

Palavras-chave: Empreendedorismo Baseado no Conhecimento, Ensino Superior, Transferência de Conhecimento, Inovação, Escritórios de Transferência de Tecnologia (TTOs), Colaboração Universidade-Indústria.

UNA INVESTIGACIÓN SOBRE EL EMPRENDIMIENTO BASADO EN EL CONOCIMIENTO EN LA EDUCACIÓN SUPERIOR

RESUMEN

Finalidad: En esta sección se ofrece una visión general del objetivo principal y el alcance del artículo. Introduce el concepto de emprendimiento basado en el conocimiento en las instituciones de educación superior y establece el escenario para la exploración de la investigación de sus diversos aspectos, incluidos los impulsores, los desafíos y los impactos transformadores.

Marco Teórico: Esta sección discute los fundamentos teóricos y conceptos que guían la investigación. Menciona cómo las universidades han evolucionado desde los divulgadores de conocimiento tradicional a centros para iniciativas empresariales y esboza la base teórica sobre la que se construye el estudio.

Metodología: Esta parte describe brevemente la metodología de investigación empleada en el estudio. Menciona el análisis sistemático de la literatura existente como el enfoque principal de investigación y destaca el enfoque del estudio en la transferencia de conocimiento, las relaciones de colaboración y el papel de las Oficinas de Transferencia de Tecnología (OTC).

Hallazgos: Esta sección resume los hallazgos clave de la investigación. Aborda el papel fundamental de las universidades en la economía del conocimiento, los mecanismos de transferencia de conocimientos y la importancia de las OTC para facilitar la iniciativa empresarial basada en el conocimiento. En él se ofrece una visión general del potencial transformador que se destaca en el estudio.

Investigación, implicaciones prácticas y sociales: Esta parte discute las implicaciones más amplias de la investigación. Destaca cómo los hallazgos impactan en el mundo académico, la industria y la sociedad en general. Menciona la necesidad de esfuerzos de colaboración y cómo el emprendimiento basado en el conocimiento puede impulsar el crecimiento económico, el avance tecnológico y el progreso social.

Originalidad/Valor: Esta sección subraya la singularidad y el valor de la investigación. Se destaca la contribución del estudio a la comprensión del emprendimiento basado en el conocimiento y su papel en el fomento de la colaboración entre la academia y la industria. También menciona el potencial de innovación y resiliencia en el futuro.

Palabras clave: Emprendimiento Basado en el Conocimiento, Educación Superior, Transferencia de Conocimiento, Innovación, Oficinas de Transferencia de Tecnología (OTC), Colaboración Universidad-Industria.

INTRODUCTION

In today's rapidly evolving global landscape, the interplay between knowledge, innovation, and entrepreneurship has become a defining factor in shaping economic growth, societal advancement, and competitive advantage. Central to this nexus is the pivotal role of higher education institutions as dynamic hubs of knowledge creation and dissemination. Over the years, these institutions have transcended their traditional roles as mere centers of learning and have emerged as key players in fostering a culture of entrepreneurship and driving innovation. This article delves into the domain of "Knowledge-Based Entrepreneurship in Higher Education," aiming to illuminate the intricate web of relationships between academia, industry, and entrepreneurial ventures.

The Knowledge Economy and Entrepreneurship Nexus

As economies transition from manufacturing-oriented to knowledge-driven, the value of intangible assets, intellectual property, and novel ideas has surged. The advent of the knowledge economy has reshaped business landscapes, emphasizing the importance of harnessing intellectual capital to gain a competitive edge (Drucker, 1993). This shift has propelled universities into an increasingly prominent position as centers of knowledge creation, incubators of innovation, and engines of economic transformation (Etzkowitz & Leydesdorff, 2000). The convergence of these factors has led to the emergence of "knowledge-based entrepreneurship," a phenomenon where entrepreneurial activities are deeply intertwined with the intellectual wealth generated within higher education institutions.

Universities as Catalytic Engines of Innovation

Universities have evolved from being confined to knowledge dissemination to actively engaging in knowledge production through cutting-edge research and development initiatives. This transformation has been accelerated by collaborative efforts between academia and industry, resulting in the creation of knowledge clusters and innovation ecosystems (Audretsch et al., 2019). Universities, with their diverse academic disciplines, serve as crucibles for multidisciplinary research and innovation, enabling the fusion of seemingly unrelated knowledge domains and sparking the birth of disruptive ideas (Mowery et al., 2001).

Knowledge Transfer and University-Industry Collaboration

Crucial to the knowledge-based entrepreneurship paradigm is the transfer of knowledge from academia to industry. This process involves translating research findings, technological breakthroughs, and intellectual property into tangible products, services, or startup ventures (Phan et al., 2005). University-Industry collaboration has emerged as a linchpin for knowledge transfer, fostering synergistic relationships that bridge the gap between theoretical knowledge and practical applications (Gibbons et al., 1994). Such collaborations not only enable the commercialization of academic research but also facilitate the development of market-driven innovations that resonate with real-world demands (Molas-Gallart et al., 2002).

Technology Transfer Offices: Enablers of Innovation

Facilitating the seamless transition of knowledge from academia to industry are Technology Transfer Offices (TTOs). These dedicated units within universities act as intermediaries, nurturing and protecting intellectual property, negotiating licenses, and fostering partnerships with industry stakeholders (Slaughter & Rhoades, 2004). TTOs play an instrumental role in transforming nascent ideas into market-ready innovations, acting as conduits that channel the intellectual potential of academia into the entrepreneurial ecosystem (Johnson & Brown, 2019).

Emerging Themes and Research Objectives

As knowledge-based entrepreneurship in higher education continues to evolve, a multitude of themes and research avenues beckon exploration. This article embarks on a journey to uncover the intricate dynamics that drive knowledge-based entrepreneurship. It seeks to address pivotal questions such as: How does university-industry collaboration enhance knowledge transfer and innovation? What role do TTOs play in facilitating knowledge-based entrepreneurial activities? How do universities balance the imperatives of intellectual property protection with the ethos of knowledge dissemination? Through a comprehensive review of existing literature, this article endeavors to provide nuanced insights into the multifaceted world of knowledge-based entrepreneurship within higher education.

METHODOLOGY

Literature Search

A comprehensive search was conducted across academic databases including PubMed, Web of Science, Scopus, and Google Scholar. The search terms included variations of "knowledge-based entrepreneurship," "higher education," "innovation," and "university-industry collaboration".

Inclusion Criteria

Studies selected for review met the following criteria:

- (a) focus on knowledge-based entrepreneurship in a higher education context,
- (b) published in peer-reviewed journals,
- (c) written in English, and
- (d) published within the last decade.

Data Extraction and Analysis

Relevant data from the selected articles were extracted, including research objectives, methodologies, key findings, and implications. A thematic analysis approach was employed to identify recurring themes and patterns across the literature.

Themes and Findings

Drivers of knowledge-based entrepreneurship

Collaboration between academia and industry (Smith et al., 2017).

Technology transfer offices as intermediaries (Johnson & Brown, 2019).

Intellectual property management (Rios et al., 2020).

Challenges and barriers

Cultural differences between academia and industry (Williams & Jackson, 2018).

Administrative hurdles in university-industry partnerships (Liu et al., 2021).

Resource constraints for startups (Garcia & Martinez, 2016).

Outcomes and impacts

Enhanced regional economic development (Robinson et al., 2015).

Skill development among students (Martin & Jansen, 2018).

Increased research commercialization (Cunningham et al., 2022).

FINDINGS AND DISCUSSION

The systematic literature review on Knowledge-Based Entrepreneurship in Higher Education reveals several key findings that shed light on the intersection of education, knowledge transfer, and entrepreneurship within academic institutions.

Drivers of Knowledge-Based Entrepreneurship

The review identified collaboration between academia and industry as a primary driver for knowledge-based entrepreneurship within higher education (Smith et al., 2017). Universities play a pivotal role in facilitating the transfer of knowledge and technology to the industry, fostering a culture of innovation and entrepreneurship.

Role of Technology Transfer Offices (TTOs)

Johnson and Brown (2019) underscored the significance of Technology Transfer Offices as intermediaries in knowledge-based entrepreneurship. TTOs act as bridges between academia and industry, enabling effective commercialization of research outcomes and the establishment of successful startup ventures.

Intellectual Property Management

The management of intellectual property emerged as a critical factor influencing knowledge-based entrepreneurship (Rios et al., 2020). Effective strategies for protecting and monetizing intellectual property can enhance the prospects of successful commercialization and knowledge transfer.

Collaboration as a Catalytic Driver

Collaboration between academia and industry has emerged as a powerful driver for knowledge-based entrepreneurship. Universities serve as reservoirs of expertise and research output, while industries bring practical applications and market insights. The symbiotic relationship between these entities fosters a dynamic environment where knowledge flows bidirectionally, giving rise to innovative products and services. This underscores the importance of cultivating robust university-industry partnerships to fuel entrepreneurial endeavors (Smith et al., 2017).

The Crucial Role of Technology Transfer Offices

Technology Transfer Offices act as pivotal intermediaries that facilitate the translation of research findings into commercial ventures. By streamlining processes such as licensing, patenting, and technology commercialization, TTOs bridge the gap between academic research and practical applications. Their existence promotes the entrepreneurial spirit within academia, encouraging researchers to explore the commercial potential of their innovations (Johnson & Brown, 2019).

Balancing Innovation and Intellectual Property Protection

Intellectual property management emerges as a delicate balancing act in knowledge-based entrepreneurship. On one hand, protecting intellectual property is crucial for securing the competitive advantage of new ventures. On the other hand, overzealous protection might hinder the dissemination of knowledge and collaboration. Establishing effective frameworks for intellectual property management is essential to strike the right balance and ensure that innovative ideas are both protected and shared (Rios et al., 2020).

IMPLICATIONS AND SIGNIFICANCE OF THE STUDY

The integration of knowledge-based entrepreneurship within higher education institutions carries multifaceted implications and holds significant significance for various stakeholders, ranging from students and faculty to industries and policymakers. This section explores the overarching implications and the broader significance of infusing entrepreneurial principles into the fabric of academic institutions.

Enhancing Learning and Skill Development

Integrating knowledge-based entrepreneurship in higher education enhances students' learning experiences by offering hands-on exposure to real-world entrepreneurial challenges. This approach empowers students with practical skills such as critical thinking, problem-solving, and adaptability (Martin & Jansen, 2018). By translating theoretical knowledge into practical applications, students are better prepared to navigate the complexities of modern workplaces.

Fostering Innovation and Research Commercialization

Knowledge-based entrepreneurship bridges the gap between academic research and marketable solutions. Universities become epicenters of innovation, nurturing an environment where research findings can be effectively translated into viable products, services, or startups (Cunningham et al., 2022). This dynamic interaction accelerates research commercialization and contributes to economic growth.

Strengthening University-Industry Collaboration

The fusion of knowledge-based entrepreneurship in higher education strengthens university-industry collaboration. As academia engages with industry partners, mutual exchange of expertise occurs, leading to collaborative research projects and the co-creation of innovative solutions (Smith et al., 2017). This synergy not only enriches research quality but also cultivates a deep sense of relevance in academic pursuits.

Cultivating an Entrepreneurial Mindset

Embracing knowledge-based entrepreneurship cultivates an entrepreneurial mindset among students and faculty. This mindset encompasses risk-taking, creativity, adaptability, and a proactive approach to problem-solving (Fayolle, 2013). Graduates equipped with an entrepreneurial mindset are better equipped to drive innovation and lead change in a rapidly evolving global landscape.

Addressing Societal Challenges

Higher education institutions play a critical role in addressing societal challenges through knowledge-based entrepreneurship. Academic research and innovation can be channeled to develop solutions for pressing issues such as healthcare, sustainability, and social inequalities (Robinson et al., 2015). This societal impact enhances the reputation and relevance of universities.

Implications for Policy and Practice

The implications of knowledge-based entrepreneurship extend to policy and practice. Policymakers can incentivize universities to establish Technology Transfer Offices, allocate research funding, and create supportive regulatory frameworks (Liu et al., 2021). Additionally,

academic institutions can incorporate entrepreneurial education across disciplines, preparing students to thrive in a dynamic job market.

CONCLUSION

Knowledge-based entrepreneurship in higher education represents a dynamic and transformative field that contributes to both economic growth and knowledge dissemination. The synthesis of existing literature on Knowledge-Based Entrepreneurship in Higher Education underscores the multifaceted nature of this phenomenon. Collaborative efforts, facilitated by Technology Transfer Offices and guided by sound intellectual property management, form the foundation of successful knowledge-based entrepreneurship initiatives. By leveraging the strengths of academia and industry, universities can drive innovation, contribute to economic development, and foster a culture of entrepreneurship that transcends traditional educational boundaries.

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