
Impact of University Transformation into the Entrepreneurial Model: Economic, Educational, Innovative and Social Dimensions

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DOI: <https://doi.org/10.32782/2707-8019/2025-2-14>

Abstract. The article conducts an investigation into the comprehensive effects of transforming traditional higher education institutions into entrepreneurial universities, emphasising their growing significance in the global knowledge economy. The notion of entrepreneurial transformation is posited as a strategic response to a triad of challenges. Firstly, there is the issue of globalisation, which has resulted in intensifying competition in the higher education sector. Secondly, there is the digitalisation of learning environments. Thirdly, there is the increasing demand for universities to play an active role in innovation-driven development. The objective of the research is to identify, classify, and analyse the key outcomes of this transformation, focusing on the economic, educational, innovative, and social dimensions. The methodological approach integrates theoretical and empirical methods, including analysis and synthesis of conceptual frameworks, expert evaluations, and case study methods. This combination enables a comprehensive examination of how entrepreneurial universities engender effects not only for their internal sustainability but also for broader socio-economic systems. The results demonstrate that the economic effects of transformation include the diversification of funding sources and revenue growth through the commercialisation of research. The educational effects include modernising the curriculum, developing entrepreneurial competencies, improving graduate employability and internationalising academic programmes. The innovative effects can be seen in the formation of startup ecosystems, an enhanced capacity for research and development, integration into global innovation networks and an expansion of intellectual property portfolios. Finally, the social effects emphasise the university's role in strengthening its partnerships with businesses and governments, promoting an entrepreneurial culture, improving social mobility and enhancing regional social infrastructure. The practical value of the study lies in its applicability to the strategic management of higher education institutions, particularly in emerging economies. The entrepreneurial university model is of particular pertinence to Ukraine, as it offers a route to enhance competitiveness, contribute to post-war recovery, and fortify integration into the European and global educational sphere. The findings of this article could provide a methodological basis for university leaders and policymakers who are looking to encourage innovation, ensure sustainability and maximise the societal impact of universities.

Keywords: entrepreneurial university, university transformation, higher education, economic, educational, innovative, and social dimensions of transformation, innovation ecosystem, commercialisation of knowledge, university-business partnership.

JEL Classification: I23, M13, O32

1 Introduction

In recent decades, the higher education sector has undergone significant transformations driven by globalisation, digitalisation, and the increasing predominance of the knowledge economy. Universities are no longer regarded exclusively as institutions that provide education and conduct research; rather, there is an increasing expectation that they should function as active participants in regional innovation ecosystems, collaborate with

business and government, and contribute directly to socio-economic development. In this context, the notion of the entrepreneurial university has achieved a high level of recognition within academic research and policy discourse.

The concept of the entrepreneurial university first emerged in the late twentieth century. Burton R. Clark (1998) and Henry Etzkowitz (2017), for example, emphasised the role of universities in fostering innovation and creating partnerships

under the "Triple Helix" model of collaboration between universities, industry and government. In contemporary discourse, the entrepreneurial university is conceptualised as an institution that integrates education and research with entrepreneurial activity, the commercialisation of knowledge, and active social engagement. These universities are regarded as pivotal agents of regional competitiveness, innovation-driven growth, and social modernisation.

Despite the global spread of this model, its effects are not yet fully systematised, particularly in the context of emerging economies such as Ukraine. Despite the extensive research conducted on the entrepreneurial role of universities in developed countries, a paucity of research exists on how transformation affects universities in contexts characterised by limited resources, institutional inertia and transitional socio-economic conditions. This article closes the gap by analysing and categorising the effects of turning universities into entrepreneurial institutions, paying particular attention to the economic, educational, innovative and social dimensions.

The present study is of particular pertinence to Ukraine for two reasons. Firstly, it is imperative to acknowledge that Ukrainian universities are confronted with a strategic imperative to enhance their competitiveness and to mitigate their reliance on state funding. Secondly, within the context of war and the post-war recovery agenda, there is an expectation that universities will become not only centres of knowledge, but also engines of regional development, innovation diffusion, and social cohesion. This dual role renders the entrepreneurial model highly relevant for Ukraine's future development.

The **article aims** to categorise the key effects of universities becoming entrepreneurial institutions, and to assess the potential impact of this on the competitiveness and sustainability of higher education in Ukraine. To achieve this purpose, the article sets the following objectives:

1. To identify the main groups of effects of entrepreneurial transformation.
2. To analyse the mechanisms of their manifestation at institutional and regional levels.
3. To assess their significance in the Ukrainian and international contexts.
4. To highlight the broader implications for educational policy and university management.

The study's **methodological framework** is based on a systematic approach combining theoretical and empirical methods. The analysis and synthesis of conceptual approaches to entrepreneurial universities was employed to

generalise findings, which were then validated through expert evaluations and case studies.

The structure of the article is congruent with its stated objectives. Subsequent to the introduction, the primary text is divided into four sections, with each one focusing on the economic, educational, innovative, and social effects of entrepreneurial transformation. The article concludes with a summary of the findings and a discussion of their implications for higher education development in Ukraine.

2 Economic Effects of Transformation

The most tangible outcomes of university transformation are economic effects, which provide the strongest argument for policy makers and stakeholders to support entrepreneurial models. These factors exert a direct influence on financial stability, institutional sustainability, and the contribution of universities to regional and national economies.

First, it is evident that entrepreneurial universities are characterised by the diversification of revenue streams. In contrast to conventional academic institutions, which are predominantly reliant on state funding and tuition fees, entrepreneurial universities have been known to establish a diverse portfolio of financial resources. These include income derived from intellectual property (IP) rights, research commercialisation, consulting contracts, continuing education, international grants, and industry-funded projects. For instance, universities in the United States and the European Union frequently receive up to 30–40% of their total budget from partnerships with business and competitive research funding. Conversely, Ukrainian universities continue to depend substantially on public funding, underscoring the necessity for transformation.

Second, entrepreneurial universities promote the commercialisation of knowledge. This process involves patenting and licensing, as well as establishing spin-off companies that generate direct revenue and indirect benefits, such as regional job creation and technological modernisation. For instance, according to Rothaermel, F.T., Agung, S.D., and Jiang, L. (2007), MIT has over 30,000 active companies founded by its alumni and faculty members, which contribute billions of dollars to the global economy each year. These cases demonstrate how commercialisation can transform a university from a knowledge producer into a significant economic player.

Third, the economic effects are evident in regional development. Entrepreneurial universities act as hubs for local innovation ecosystems.

According to Shane (2004), university spin-offs play a pivotal role in regional wealth creation, demonstrating the commercial potential of academic research. They create employment opportunities for graduates and researchers, attract domestic and international investment, and promote the growth of science and technology parks. In Ukraine, those located in industrial cities such as Dnipro, Kharkiv and Lviv could play a pivotal role in bolstering regional economic resilience and post-war recovery.

Finally, entrepreneurial universities have been shown to strengthen their long-term sustainability. By reinvesting revenues into infrastructure, research, and student support services, they ensure autonomy from unstable state financing. This autonomy empowers them to pursue long-term strategies that are aligned with societal needs, as opposed to being constrained by short-term financial considerations.

Thus, the economic effects of entrepreneurial transformation extend beyond financial growth. They represent systemic shifts in the way universities interact with markets, create value and remain competitive in a global environment.

3 Educational Effects of Transformation

Whilst the economic benefits of entrepreneurship are often the focus of attention, the educational dimension of entrepreneurial transformation is of equal importance, as it defines the human capital outcomes of universities. It is evident that entrepreneurial universities cultivate graduates who possess competencies that are not only conducive to employment, but also facilitate value creation, innovation, and entrepreneurship.

The first major educational effect is the modernisation of the curriculum. Entrepreneurial universities introduce interdisciplinary programmes combining management, technology, and innovation. Philpott et al. (2011) emphasise that balancing tensions between traditional academic values and entrepreneurial goals is essential for achieving sustainable transformation. Courses on entrepreneurship, intellectual property, venture finance and startup management have become an integral part of the curriculum. For example, Stanford University's d.school (Hasso Plattner Institute of Design) incorporates design thinking into engineering and business courses. This provides students with the tools they need to develop innovative solutions (Klofsten, M., Fayolle, A., Guerrero, M., Mian, S., Urbano, D. & Wright, M., 2019). Ukrainian universities are also beginning to adopt similar approaches, albeit often on a pilot scale.

The second effect pertains to the cultivation of entrepreneurial competencies. It is evident that entrepreneurial universities place a significant emphasis on experiential learning, whereby students are engaged in real-world projects, competitions, hackathons and internships within startup companies. This pedagogical shift has been shown to engender creativity, resilience, teamwork, and problem-solving abilities. Rather than being passive recipients of knowledge, students become active innovators.

Third, entrepreneurial transformation enhances the competitiveness of graduates in the labour market. Participation in incubators, accelerators, and collaborative research endeavours provides students with the opportunity to acquire practical experience and establish professional networks. The importance of these competencies to employers is increasing, and this is reflected in the higher employment rates and faster career advancement often demonstrated by graduates of entrepreneurial universities.

Fourth, the educational effects also involve the internationalisation of higher education. Entrepreneurial universities engage in global partnerships, student exchange programmes and dual degree initiatives. This exposes students to best practices and raises the international profile of the university. Such internationalisation is critical for Ukraine's integration into the European Higher Education Area and access to international funding.

Finally, the educational mission of entrepreneurial universities plays a key role in fostering an entrepreneurial culture. As well as offering courses and projects, universities promote entrepreneurial thinking as part of their identity, encouraging risk-taking, leadership and social responsibility. This cultural shift influences not only students, but also faculty members, administrators and the wider community.

In summary, the effects of education are not limited to modernising teaching methods, but also encompass a broader transformation of the role of universities: shifting the focus from producing employees for existing industries to cultivating entrepreneurs and innovators who create new industries.

4 Innovative Effects of Transformation

Innovation lies at the heart of the entrepreneurial university model, linking the academic mission of generating knowledge with the practical needs of society and industry. The transformation of higher education institutions into entrepreneurial universities significantly increases their innovation capacity, producing a series of measurable and qualitative effects.

One of the primary innovative effects is the formation of startup ecosystems within universities. These entrepreneurial institutions set up technology transfer offices, incubators, accelerators and co-working spaces to support ventures founded in the early stages by students, faculty members and alumni. These structures provide physical resources, mentorship, networking opportunities and access to venture capital. The Cambridge Science Park, for example, was initiated by the University of Cambridge and now hosts more than 100 companies. According to Kitagawa (2005), it has become a model for academic-driven regional development. Ukrainian universities have begun similar initiatives, though on a smaller scale. Pilot programmes such as the Startup Schools in Kyiv and Dnipro are early signs of this shift.

A further significant effect is the strengthening of research and development (R&D) activities. It is evident that entrepreneurial universities encourage the pursuit of applied research with the objective of finding solutions to the challenges faced by industry and society. This necessitates interdisciplinary collaboration across faculties, frequently involving direct involvement from private companies and public agencies. Universities such as MIT and Stanford are regarded as global benchmarks, where research outcomes rapidly transition from laboratory prototypes into market-ready solutions (Etzkowitz and Leydesdorff, 2000). In Ukraine, strengthening the link between research and industry remains challenging, but efforts to transform the sector highlight the importance of aligning university R&D with regional innovation strategies (A Guiding Framework for Entrepreneurial Universities, OECD).

The transformation also results in integration into national and global innovation ecosystems. Entrepreneurial universities actively participate in international research consortia, Horizon Europe projects, and networks such as the European Institute of Innovation and Technology (EIT), as per Entrepreneurial Universities in Europe: Guidance and Case Studies (2020). These partnerships have been shown to enhance knowledge exchange, attract funding, and position universities as global innovation players. As asserted by Philpott et al. (2011), it is imperative to achieve a harmonious balance between the conventional academic values and the entrepreneurial objectives to facilitate sustainable transformation. For Ukrainian academic institutions, this integration presents significant opportunities to overcome resource limitations and enhance visibility within the global academic community.

Furthermore, the augmentation of intellectual property portfolios is a hallmark of entrepreneurial universities. The World Bank (2013) identifies key institutional practices that enable universities to act as engines of innovation and entrepreneurship. By encouraging the patenting and licensing of intellectual assets, universities not only protect their own intellectual property but also generate revenue streams. Intellectual property offices within academic institutions fulfil a pivotal function in the management of these activities, ensuring the effective transfer of innovation outcomes to the commercial sector.

Finally, innovative effects influence the culture of research and learning within the institution. The faculty and students are oriented towards problem-solving, creativity, and entrepreneurship. This cultural shift has the effect of enhancing the attractiveness of universities to partners and investors, thereby positioning them as engines of innovation-driven growth.

Consequently, innovative effects demonstrate how entrepreneurial universities act as conduits between academic knowledge and economic practice, generating solutions that address societal challenges while driving competitiveness at multiple levels.

5 Social Effects of Transformation

The social dimension of entrepreneurial transformation highlights the university's function as an educational and research institution, as well as a pivotal actor in societal development. It is asserted that entrepreneurial universities have the capacity to shape regional communities, foster social innovation, and enhance social mobility.

A significant social effect of this phenomenon is the expansion of partnerships within the "Triple Helix" framework, which consists of university, business, and government entities. It is evident that entrepreneurial universities function as mediators and catalysts of collaboration between these actors, thereby establishing platforms for dialogue and the development of joint projects. This co-operation has been demonstrated to enhance innovation systems, engender trust among stakeholders, and promote collective action towards regional development.

Another social effect is the improvement of regional social infrastructure. It is evident that universities, by attracting investment, exert a indirect influence on the development of housing, transportation, healthcare and cultural institutions in their respective localities. Universities frequently embark upon cultural and civic projects, including festivals, exhibitions and volunteering programmes, with the aim of enhancing the social

environment. The European Commission (2020) asserts that entrepreneurial universities in Europe have evolved into pivotal instruments of regional innovation and competitiveness. For instance, the University of Warwick in the UK has been found to be engaged in community initiatives (Vorley, T. and Nelles, J., 2008), which suggests that entrepreneurial universities contribute to local quality of life. In Ukraine, universities situated in industrial regions are in a distinctive position to facilitate post-war recovery and community resilience through the implementation of analogous initiatives.

The promotion of entrepreneurial culture within society is a further outcome. It is evident that entrepreneurial universities disseminate values of creativity, responsibility and initiative, influencing not only students and staff but also local businesses and communities. The provision of training programmes, public lectures and open innovation competitions has been demonstrated to encourage broad societal involvement and to create opportunities for lifelong learning. The social effects also include increased social mobility and inclusion. Entrepreneurial universities provide students from a range of socio-economic backgrounds with access to innovative education, opportunities to participate in startups, and the chance to build professional networks. Mian, Fayolle and Lamine (2012) argue that sustainable incubators are essential to university innovation ecosystems. By offering scholarships, incubation services and mentoring, they reduce barriers for underrepresented groups and promote more equitable development.

Ultimately, the social effects are manifest in the strengthening of democratic and civic engagement. It is asserted that entrepreneurial universities nurture active citizenship by promoting problem-oriented projects that address community challenges, ranging from environmental protection to social entrepreneurship. These initiatives serve to extend the mission of universities beyond the confines of academic institutions, thereby reinforcing their legitimacy as socially responsible entities. This finding aligns with Lundvall's (2007) concept of national innovation systems, wherein universities function as pivotal nodes that facilitate the connection between research and industry.

It is evident that the transformative power of entrepreneurial universities in shaping inclusive, dynamic, and resilient societies is illustrated by their overall social effects. It is asserted that the entrepreneurial model is not solely an economic imperative; rather, it is also a social contract that

redefines the relationship between universities and their communities.

6 Conclusions

The research has identified and systematised the multifaceted effects of university transformation into entrepreneurial universities, structured across four dimensions: economic, educational, innovative, and social.

From an economic perspective, the presence of entrepreneurial universities has been demonstrated to lead to diversification of funding sources, an augmentation of revenues through the commercialisation of knowledge, and a contribution to regional development. The aforementioned effects ensure institutional sustainability and enhance the role of universities as economic actors.

In educational terms, transformation modernises curricula, fosters entrepreneurial skills, improves graduate employability and promotes internationalisation. These outcomes redefine the educational mission by preparing graduates for not only employment, but also for creating new ventures and industries.

Innovative effects include the development of startup ecosystems, stronger R&D capacity, integration into global innovation networks, and expanded intellectual property portfolios. These effects position universities as drivers of technological advancement and competitiveness.

In a social context, entrepreneurial universities expand their partnerships with businesses and government bodies, improve regional social infrastructure, promote an entrepreneurial culture and strengthen social mobility and civic engagement. In doing so, they contribute to inclusive and sustainable societal development.

The interconnectedness of these effects underscores the systemic nature of transformation. Economic sustainability fosters innovation, which in turn improves education, while social engagement ensures long-term legitimacy. For Ukrainian universities, adopting an entrepreneurial approach is essential for integration into the global knowledge economy, as well as for contributing to national recovery and resilience.

Future research should focus on developing quantitative indicators to measure the effects of transformation, conducting comparative studies across regions and creating policy frameworks that facilitate the scaling up of entrepreneurial models. In doing so, universities will strengthen their internal capacity and maximise their contribution to economic growth, social well-being and innovation-led development.

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Received on: 12th of October, 2025

Accepted on: 20th of November, 2025

Published on: 30th of December, 2025