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TRANSFORMATION TOWARD L UNIVERSITY: ENHANCING THE SUSTAINABILITY OF PRIVATE UNIVERSITIES THROUGH SOFT SYSTEM METHODOLOGY

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Abstract:

Background: Private universities in Indonesia play an important role in widening access to higher education and contributing to national development. At the same time, many of these institutions operate under conditions of limited financial resources, human capacity, and infrastructure, while facing increasing competition. These challenges place pressure on their long-term competitiveness and sustainability.
Purpose: This study explores how private universities may move toward an entrepreneurial university orientation by examining key factors and managerial practices that support competitiveness, sustainability, and socio-economic contribution.
Design/methodology/approach: The study adopts a qualitative approach based on Soft Systems Methodology (SSM) to examine complex institutional change involving multiple stakeholders. Data were drawn from a review of relevant literature and interviews with selected experts.
Finding/Results: The study shows that efforts to move toward an entrepreneurial university are shaped by how academic, innovation, and entrepreneurial activities are brought into relation with one another. When these activities begin to interact more consistently, they create conditions that support the development of innovation and entrepreneurial initiatives linked to institutional sustainability.
Conclusion: The analysis suggests that changes toward an entrepreneurial orientation in private universities tend to be associated with leadership practices, governance arrangements that allow adaptation, and the gradual formation of an innovation-oriented culture. How human resources are developed, curricula are adjusted, collaborative relationships are built, and monitoring processes are carried out appears to influence the sustainability and competitiveness of these institutions over time.
Originality/value: This study offers a context-specific framework for Indonesian private universities and provides practical insights for institutional leaders seeking to enhance innovation capacity and long-term sustainability.

Keywords: academic ecosystem, entrepreneurial university, entrepreneurship ecosystem, innovation ecosystem, private university

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INTRODUCTION

In the contemporary economic landscape, knowledge and education are increasingly regarded as key assets that drive innovation, productivity, and national competitiveness. Universities play a central role in this process, functioning simultaneously as agents of change, centres of research, and hubs for knowledge creation. In Indonesia, private universities dominate the higher education sector under the supervision of the Ministry of Higher Education, Science, and Technology, accounting for approximately 63.7% of all higher education institutions (PDDikti, 2025). As part of the national higher education ecosystem, private universities contribute significantly to the achievement of the Sustainable Development Goals by widening access to learning opportunities and preparing graduates with skills relevant to industry needs. Their wide geographical distribution also enables higher education services to reach communities that are less served by public institutions. This position places private universities in a strategic role in supporting national development through education and human capital formation.

Beyond teaching, private universities also share responsibility for research and innovation activities aimed at addressing societal challenges. Through curriculum development, community engagement, and applied research, they are expected to generate knowledge that contributes to social, economic, and technological development. In practice, these responsibilities require private universities to balance academic quality with responsiveness to external demands. Research and innovation activities are increasingly expected to produce outcomes that are not only academic in nature but also applicable and beneficial to society. These roles position private universities as important actors in strengthening national innovation capacity and supporting inclusive development. As a result, the ability of private universities to manage and integrate these functions becomes a critical issue for their long-term relevance.

Despite their strategic importance, private universities face persistent challenges. Rapid technological change, increasing public expectations regarding education quality, and intensifying competition within the higher education sector place considerable pressure on institutional performance (Shah et al., 2019). These pressures are compounded by structural constraints, including heavy dependence on tuition fees, limited financial flexibility, shortages in qualified human resources, and inadequate infrastructure. Such conditions limit the ability of private universities to sustain innovation and long-term competitiveness (Kholiavko et al., 2021). Under these circumstances, private universities are required to rethink how their institutional resources and activities are organized in order to remain relevant and resilient.

In response to these challenges, the concept of the entrepreneurial university has gained increasing attention in the international literature (Adesola & Datta, 2020; Baporikar, 2020). This concept emphasizes the integration of academic, research, and entrepreneurial activities to enhance institutional adaptability, innovation capacity, and socio-economic contribution (Pinheiro & Stensaker, 2014; Salamzadeh et al., 2016). While studies on entrepreneurial universities are well established in developed countries, empirical research focusing on private universities in Indonesia remains limited. Existing studies tend to concentrate on public universities and often overlook how entrepreneurial principles are embedded in the academic and operational practices of private institutions. As a result, there is still a limited understanding of how private universities manage the transformation process under conditions of resource constraints and institutional complexity. This gap highlights the need for context-specific analysis that reflects the realities faced by private universities in Indonesia.

Addressing the transformation of private universities requires an approach that recognizes the complexity of institutional change. Adaptation in higher education is not merely a technical process, but involves shifts in mindset, organizational culture, and patterns of interaction among multiple stakeholders (Farrow, 2021). In the context of Indonesian private universities, transformation is closely linked to the implementation of the tridharma of higher education, encompassing education, research, and community service. These functions are increasingly expected to drive innovation, create value, and deliver tangible benefits to society (Baporikar, 2020). Given the interconnected nature of these challenges, a systemic and learning-oriented perspective is needed. The entrepreneurial university framework offers such a perspective by integrating entrepreneurial thinking into core academic activities, encouraging applied research, broadening access to resources, and fostering solutions with wider socio-

economic impact. Rather than replacing traditional academic functions, this approach seeks to strengthen their relevance and responsiveness to changing societal needs.

Building on these considerations, this study aims to examine how private universities in Indonesia can move toward an entrepreneurial university orientation. The research focuses on identifying key factors and institutional practices that support this transformation, with particular attention to the interconnections among academic, innovation, and entrepreneurial activities. Through this focus, the study seeks to generate insights into how private universities may strengthen institutional relevance, competitiveness, and long-term sustainability. To address these objectives, the study adopts Soft Systems Methodology (SSM) as the main analytical approach. This methodology is selected for its capacity to explore complex social situations involving multiple actors and diverse perspectives. Through SSM, the study aims to visualize the existing situation, identify key problem areas, and develop a conceptual transformation model that can inform institutional learning and practical decision-making within private universities.

METHODS

This study employed a qualitative approach using Soft Systems Methodology (SSM) to examine the transformation of private universities toward an entrepreneurial university orientation. The research was conducted at selected private universities in Jakarta under the supervision of the Higher Education Service Agency (LLDIKTI) Region III between February and July 2025. Data were collected from both primary and secondary sources to provide a comprehensive understanding of the research problem. Research sites and participants were selected purposively based on their relevance to the study objectives.

Primary data were collected through semi-structured interviews with key stakeholders involved in academic management, innovation, and entrepreneurship. Participants included university leaders, business incubator managers, and representatives from the Science Techno Park at IPB University and LLDIKTI Region III. Participants were selected purposively based on their relevant experience and institutional knowledge. Secondary data were collected from academic literature, policy documents, and institutional reports to support the analysis.

Data analysis followed the seven stages of Soft Systems Methodology proposed by Checkland and Poulter (2020)such an approach was found inadequate when faced with obscure objectives and multiple legitimate viewpoints. The alternative which emerged, Soft Systems Methodology, SSM, uses models of purposeful activity systems to set up a debate about change and learns its way to changes which would be both (systematically. The process began with exploring the problem situation, followed by developing rich pictures to capture stakeholder perspectives and systemic issues. Root definitions and conceptual models were formulated to clarify the system's purposes and key activities. The analysis emphasized reflection and learning to identify changes considered both feasible and desirable.

The research framework is illustrated in Figure 1, which presents the application of the seven-stage Soft Systems Methodology. The process begins with identifying problematic situations, representing them through rich pictures, and formulating root definitions and conceptual models. These models are then compared with real-world conditions to identify feasible and desirable changes, leading to the development of a transformation model for entrepreneurial universities.

RESULTS

Stage 1: Identifying Issues Perceived as Problems

The first stage of soft systems methodology (SSM) focuses on exploring complex and unstructured problem situations associated with the transformation of private universities into entrepreneurial institutions. At this stage, the analysis is not intended to produce solutions, but to develop an initial understanding of how the situation is perceived by stakeholders and how institutional practices influence the transformation process (Checkland & Poulter, 2020)such an approach was found inadequate when faced with obscure objectives and multiple legitimate viewpoints. The alternative which emerged, Soft Systems Methodology, SSM, uses models of purposeful activity systems to set up a debate about change and learns its way to changes

which would be both (systematically. In many private universities, academic, innovation, and entrepreneurial activities have begun to emerge, but do not yet operate as a unified institutional process. Academic work remains associated with teaching and scholarly output, while research and innovation tend to follow administrative targets and performance assessments. Entrepreneurial activities are often placed outside the main academic stream through specific programs such as business incubators, limiting their connection to teaching and research.

This situation concerns to how roles, norms, and authority are distributed within private universities. Decision-making is largely centralized at the leadership level, favoring stability and gradual change over integrative transformation. Consequently, lecturers, research units, and entrepreneurship support units have limited influence in embedding innovation and entrepreneurial practices into everyday academic processes. Engagement with external stakeholders, such as industry, government, investors, and community partners, typically occurs through project-based collaboration, limiting the continuity of cross-ecosystem integration.

Overall, this stage reveals a complex and loosely structured situation in which academic, innovation, and entrepreneurial activities coexist but remain weakly interconnected. Rather than offering immediate solutions, it highlights the importance of a learning-oriented approach that emphasizes dialogue and reflection among stakeholders. These insights provide a foundation for subsequent SSM stages, particularly the development of rich pictures and conceptual models to explore feasible and desirable changes.

Stage 2: Articulating problems and developing a rich picture

In this part of the analysis, the situation under study is represented through a rich picture to convey how the move toward an entrepreneurial university is encountered in everyday practice. The illustration brings together academic, innovation, and entrepreneurial activities in private universities, while also depicting the actors involved and the institutional arrangements that shape their interactions. As shown in Figure 2, academic activities remain centered on teaching and scholarly publication, while research and innovation are largely shaped by administrative and performance-driven requirements. In practice, entrepreneurial work in private universities is frequently channeled through stand-alone initiatives managed by specific support units, most commonly business incubators, and is largely directed toward student activities. Because these initiatives are separated from routine teaching and research, their connection to learning processes and research outcomes remains limited.

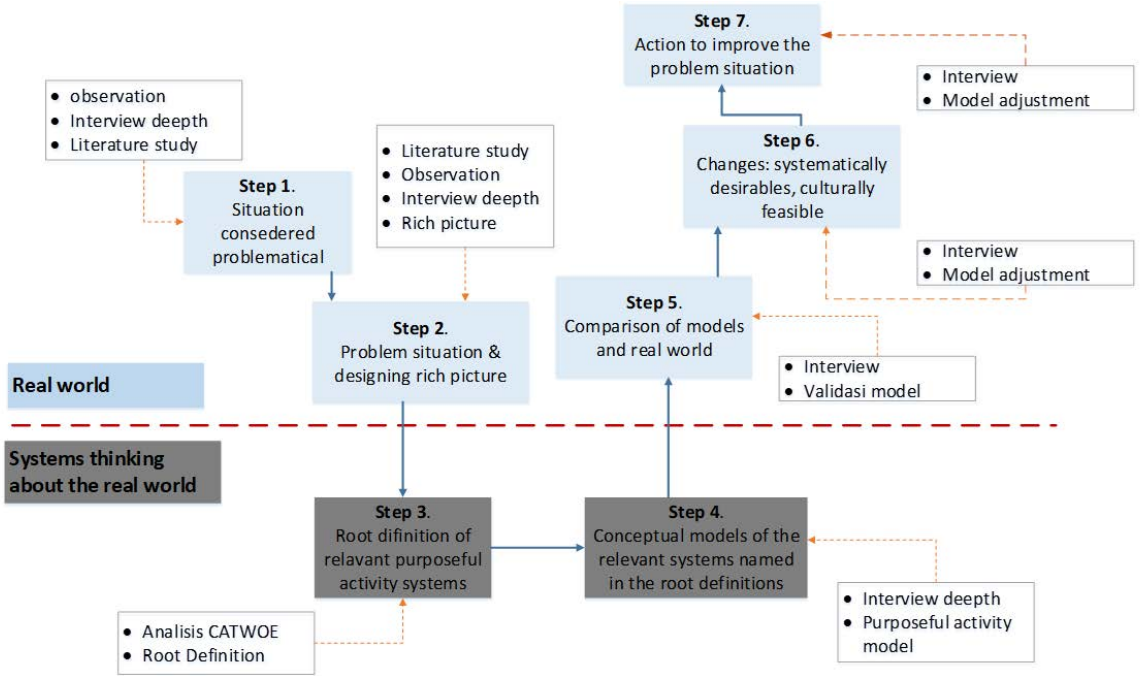

Figure 1. Research framework illustrating the application of the seven-stage Soft Systems Methodology (SSM)

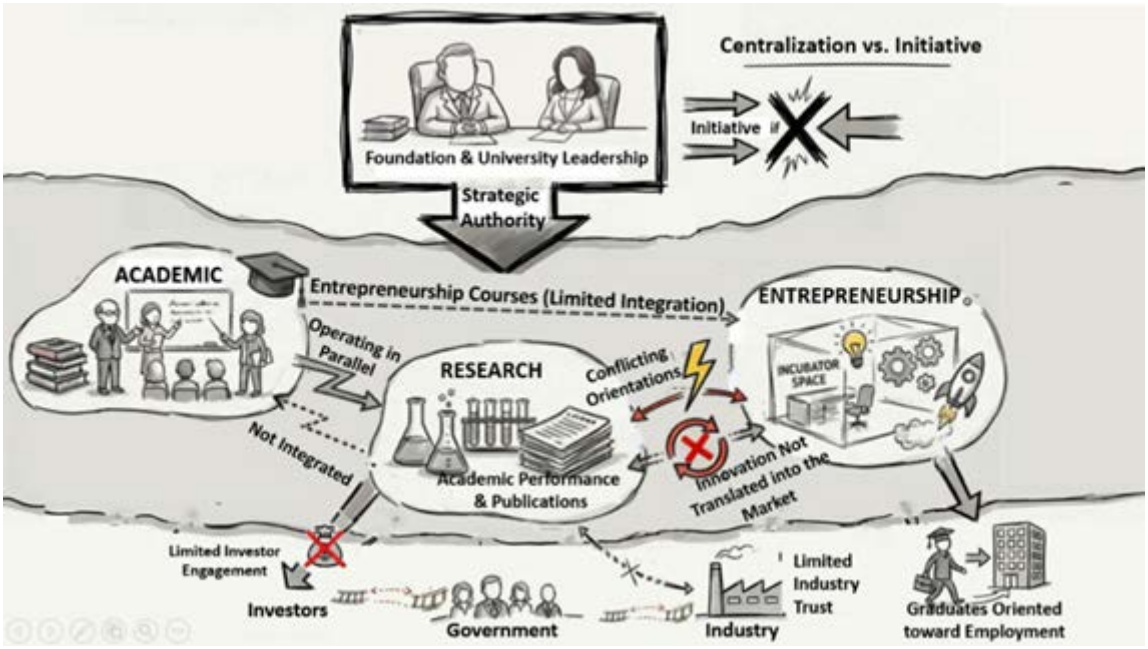

Figure 2. Rich picture of problem situations in private universities' entrepreneurial transformation

The rich picture also reflects a number of tensions within the system. These tensions include the underrepresentation of entrepreneurship in academic curricula, uneven patterns of human resource development, limited connections between research activities and innovation goals, and ongoing funding constraints. Such tensions influence how activities are prioritized and coordinated across the institution. In this way, the rich picture serves as a shared basis for learning and structured discussion in the subsequent stages of SSM.

Stage 3: Developing a root definition of the relevant human activity system

At this stage, a Root Definition is formulated to clarify how the problematic situation can be understood as a relevant human activity system. It is not intended to prescribe solutions, but to provide a structured way of understanding how academic, research, and entrepreneurial activities are perceived within private universities using Soft Systems Methodology. Developed through PQR logic, it refers to a system concerned with connecting activities that continue to operate separately. These connections may emerge through institutional arrangements that enable research-based innovation to extend beyond academic outputs toward entrepreneurial activity and commercialization, within conditions such as centralized decision-making, strong academic performance pressures, and limited external engagement. This framing supports a more coherent understanding of transformation toward an entrepreneurial university.

To further explore this framing, CATWOE is used as a reflective lens. The analysis highlights key actors affected by the integration of academic, research, and entrepreneurial activities, particularly students, academic staff, and the institution. Leadership, academic staff, and supporting units such as research offices and business incubators play active roles, while strategic authority remains with foundations and senior management. Transformation is therefore understood not as the introduction of an ideal model, but as a gradual effort to strengthen connections among existing but weakly linked activities.

This transformation is shaped by both internal and external conditions. Internally, academic traditions, centralized structures, and limited experience in applied research and entrepreneurship influence everyday practices. Externally, regulatory frameworks, funding arrangements, and the challenge of sustaining partnerships with industry and investors affect how integration can be pursued. In this way, the Root Definition and CATWOE provide a conceptual basis for developing the activity models in the next stage.

Stage 4: Developing a conceptual model

This stage introduces a conceptual activity model that brings together a set of activities considered relevant to the transformation of private universities toward an entrepreneurial orientation. Rather than serving as an implementation guide, the model is used as an analytical device to translate the Root Definition into a structured representation of how academic, research, and entrepreneurial activities may be connected within existing institutional conditions. Through this representation, the model provides a way to reflect on relationships among activities rather than prescribing specific actions.

Figure 3 presents the conceptual model by bringing together activities that take place both within and beyond the institution. Internally, the model points to how leadership practices, governance arrangements, and everyday academic routines shape opportunities for entrepreneurial and innovative activity. Elements such as curriculum design, academic staff capacity, interdisciplinary interaction, and the handling of applied research and innovation outcomes are shown as interconnected aspects of the same system. Externally, the model reflects the influence of policy settings, collaborative relationships with external partners, and access to varied funding sources. These conditions together suggest a learning-oriented environment in which monitoring and evaluation support ongoing adjustment rather than fixed implementation.

By bringing these elements into a single representation, the conceptual activity model makes explicit how different activities are expected to relate to one another within the institutional system. The model is not intended to function as a blueprint for action, but as a means of surfacing underlying assumptions and relationships that inform current thinking about entrepreneurial university development. It supports reflection on how existing practices may be aligned more coherently over time. In this way, the model provides a basis for discussion and learning among stakeholders. These reflective processes help prepare the ground for examining feasible and desirable changes in the subsequent stages of SSM.

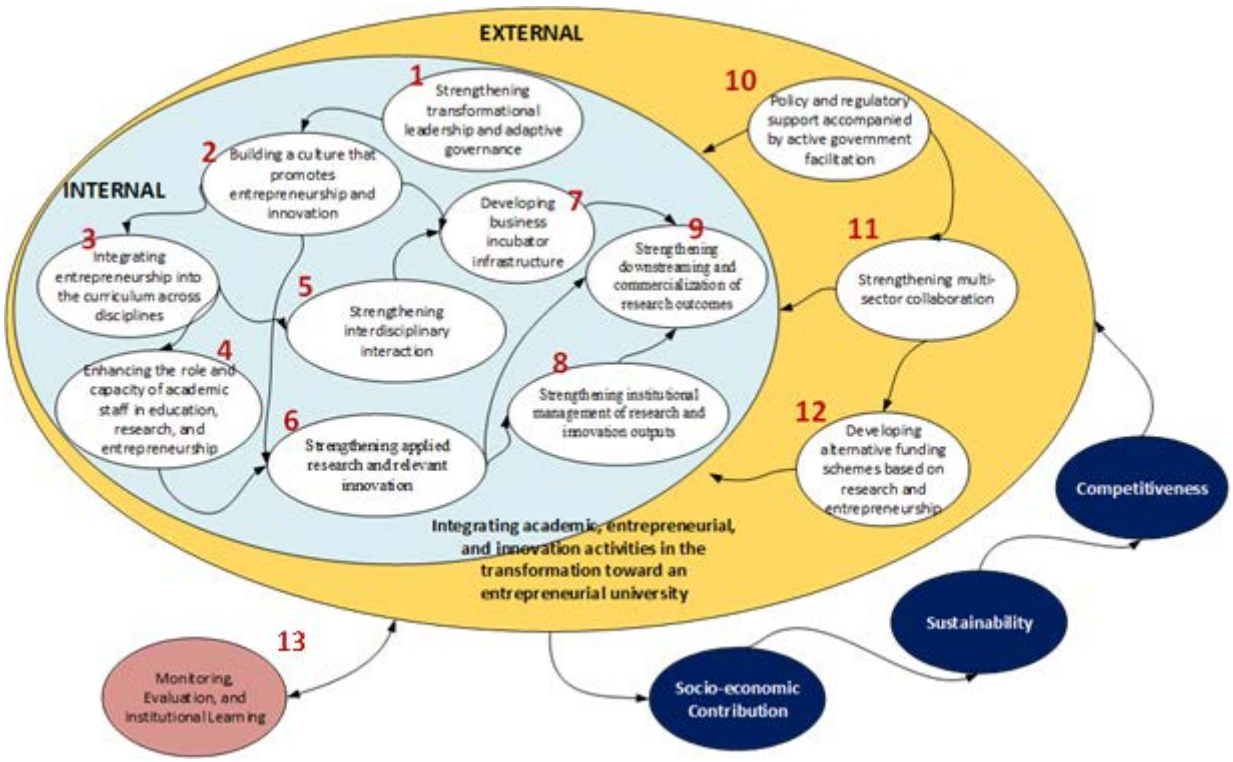

Figure 3. Conceptual model for the transformation of private universities toward an entrepreneurial university

Stages 5 and 6: Comparing the conceptual model with real-world conditions and suggesting improvements

In stages five and six, the conceptual activity model is examined in relation to how activities are actually carried out within private universities. This comparison is used as a reflective process to explore how academic, research, innovation, and entrepreneurial activities are connected in everyday practice. Attention is given not only to areas of alignment, but also to situations where activities remain separated or only loosely coordinated. The purpose of this comparison is not to assess institutional performance or effectiveness. Instead, it seeks to gain insight into how existing arrangements shape patterns of interaction and disconnection across institutional activities.

The comparison highlights several recurring conditions within private universities. Entrepreneurial initiatives are strongly influenced by leadership and governance structures, yet coordination across academic, research, and entrepreneurial domains often depends on individual efforts rather than formalized institutional mechanisms (Rodríguez-Aceves et al., 2024). Although entrepreneurial ideas have been introduced through certain courses and programs, they have not become an integral part of everyday academic routines. Research activities continue to prioritize academic outputs, while their links to innovation utilization, incubation processes, and broader entrepreneurial objectives remain uneven, reflecting challenges also identified in previous studies regarding the gap between academic research and industry needs (Jamali & Danaei, 2025). These patterns reflect the persistence of fragmented practices across institutional domains.

These conditions suggest that change is more likely to occur through gradual adjustments that take existing institutional contexts into account. Rather than addressing activities in isolation, attention is directed toward how leadership, organizational culture, academic work, research management, and external engagement intersect in practice. The directions for improvement, therefore, emphasize the progressive strengthening of governance and leadership practices, alongside the wider adoption of entrepreneurial and innovative values. They also include closer collaboration among academic staff across disciplines, better alignment between research activities and innovation management, and a more integrative role for incubators. Expanded interaction with external partners and the careful development of alternative funding arrangements further support these efforts. Collectively, these directions point toward incremental changes that may reduce fragmentation and strengthen integration across institutional activities over time.

Stage 7: Reviewing the model and preparing for real-world applications

This stage brings together the insights developed across the previous stages by reflecting on them through a transformation model. The purpose of this stage is not to move directly toward implementation, but to consolidate understanding of how the transformation of private universities toward an entrepreneurial orientation can be interpreted as a connected and evolving process. Attention is therefore placed on integration rather than execution. The model serves as a means of bringing together the results of earlier reflection and comparison into a single systemic representation. In doing so, it provides a shared reference point for understanding institutional change as a dynamic and learning-oriented process.

As shown in Figure 4, the transformation model illustrates the interaction among three closely related ecosystems, namely the academic, innovation, and entrepreneurial ecosystems. Within the model, private universities are positioned as the central arena in which educational activities, research and innovation processes, and entrepreneurial development intersect. This positioning highlights the university's coordinating role in aligning multiple institutional functions. This is consistent with previous studies emphasizing the importance of ecosystem integration in supporting innovation and knowledge commercialization within universities (Belitski & Sikorski, 2024; Marchant-Pérez & Ferreira, 2024). From this perspective, transformation is understood less as a collection of separate initiatives and more as an ongoing process shaped by relationships among activities. Such relationships evolve over time and are influenced by both internal and external conditions. Entrepreneurial universities integrate teaching, research, and commercialization activities to support innovation and entrepreneurial development (Tripa et al., 2025), while collaboration with external stakeholders further strengthens entrepreneurial capacity (Riana et al., 2025).

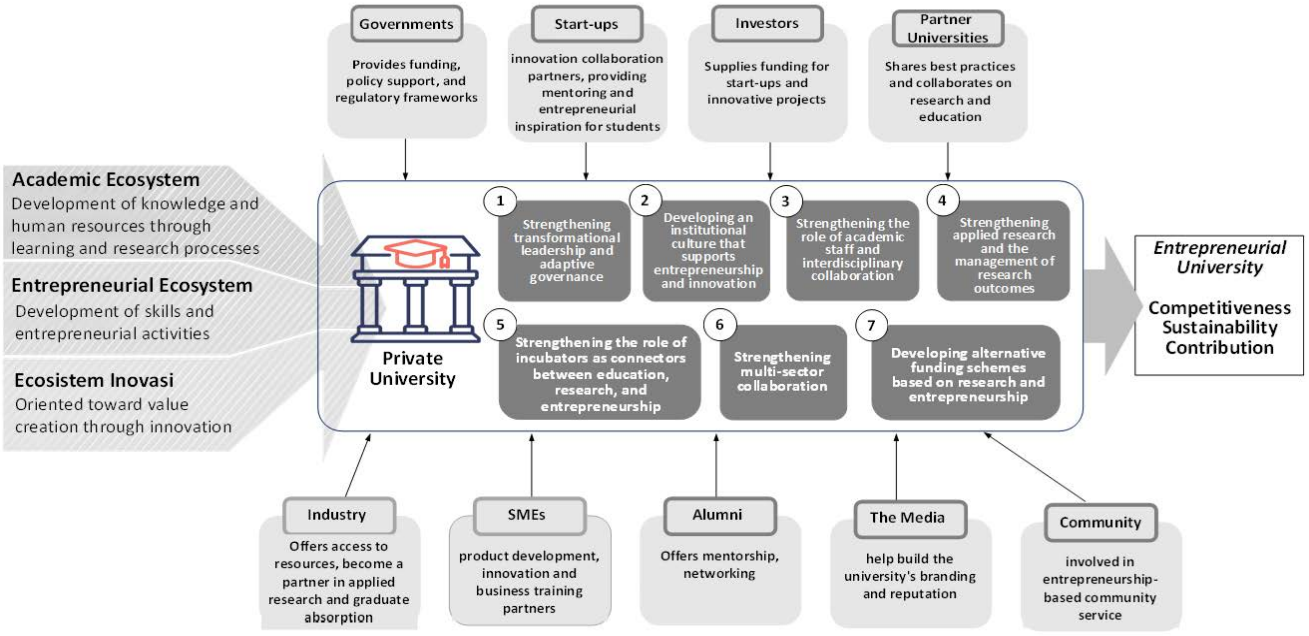

Figure 4. Framework for the transformation of private universities into an entrepreneurial university through ecosystem integration

The model further highlights seven interrelated directions that are considered important in shaping institutional change. These directions relate to leadership and governance, the development of an entrepreneurial and innovative culture, the role of academic staff and interdisciplinary collaboration (López-Lemus, 2023) observational, and explanatory. Regarding the sample used, 434 university entrepreneurial leaders from the state of Guanajuato, Mexico were considered. A structural equation model (SEM, and the strengthening of applied research and innovation management. They also include the function of business incubators as connectors between education, research, and entrepreneurship, engagement with external sectors, and the gradual development of alternative funding arrangements linked to research and entrepreneurial activity. Rather than being treated as independent steps, these directions are viewed as mutually reinforcing. Together, they reflect a holistic approach to transformation that can develop progressively in line with institutional capacities, supported by the strengthening of professional competencies and adaptive learning processes (Shafie et al., 2024).

In addition, the model situates external actors such as government agencies, industry partners, startups, investors, partner universities, alumni, media, and the wider community as part of the environment that supports institutional transformation. Their involvement is associated with collaboration, facilitation, and network expansion, which contribute to institutional learning (Al Harrasi & Al Subhi, 2024; Dziminska & Krzewinska, 2025). At the same time, responsibility for managing internal change remains primarily with the university itself. This balance highlights the importance of external engagement without diminishing institutional autonomy. Seen in this way, the model emphasizes how closer integration among academic, innovation, and entrepreneurial ecosystems can strengthen competitiveness, support long-term sustainability, and enhance the socio-economic contributions of private universities.

Managerial Implication

The managerial implications presented in this section are derived from the learning-oriented analysis conducted through Soft Systems Methodology. Rather than offering prescriptive or technical recommendations, these implications are framed as strategic directions that may be interpreted and adapted by private universities in accordance with their institutional context and capacity. The purpose of this section is to translate the conceptual transformation model into insights that are relevant for university leaders and decision-makers. In line with the SSM perspective, emphasis is placed on learning, reflection, and gradual alignment rather than fixed implementation steps. Managerial implementation is therefore viewed as part of an ongoing institutional change process rather than a one-time intervention.

From a leadership and governance perspective, the findings suggest that entrepreneurial transformation requires practices that emphasize coordination, learning, and interaction across organizational units. Adaptive governance arrangements may support this process by allowing flexibility in decision-making while maintaining accountability and institutional coherence. Leadership commitment plays an important role in aligning strategic priorities across academic, research, and entrepreneurial activities (Elfrida et al., 2024). Through consistent policy direction and incentive structures, university leaders may gradually foster an environment that supports entrepreneurial and innovative practices. In this sense, leadership and governance function as enabling conditions for institutional transformation.

The analysis also indicates that institutional culture and human resources are closely interconnected in supporting entrepreneurial transformation. Managerial attention may therefore be directed toward cultivating a culture that values entrepreneurship and innovation as part of everyday academic practice. Such a culture can be reinforced through recognition systems, interdisciplinary collaboration, and capacity development initiatives for academic staff (Ierapetritis, 2019; López-Lemus, 2023). Academic staff play a key role in linking teaching, research, and entrepreneurial activities within the institution. Supporting professional development and collaborative practices may strengthen this integrative role and enhance institutional adaptability (Shafie et al., 2024).

In relation to research and innovation, the findings highlight the importance of aligning academic research activities with mechanisms for knowledge utilization. This does not imply reducing academic rigor, but rather strengthening processes that support applied research, downstreaming, and commercialization. Institutional support units, including research offices and business incubators, may function as connectors linking research outputs with innovation and entrepreneurial initiatives (Granstrand & Holgersson, 2020). When these units are integrated into broader institutional strategies, they can help reduce fragmentation and support more coherent innovation pathways. Such alignment contributes to institutional sustainability and socio-economic impact. External engagement and institutional learning also emerge as important dimensions of managerial implementation. Collaboration with industry, government agencies, investors, and community partners may be approached as a long-term institutional strategy rather than short-term project-based activities (Evans et al., 2023). Over time, these relationships may contribute to resource diversification and knowledge exchange, which are particularly important for private universities operating under resource constraints. In parallel, monitoring and evaluation processes can be used as reflective tools that capture learning and patterns of interaction across institutional activities (Secundo & Elia, 2014). Through this combined approach, private universities can sustain entrepreneurial transformation while remaining responsive to changing internal and external conditions.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This study demonstrates that the transformation of private universities toward an entrepreneurial orientation is closely linked to how academic, innovation, and entrepreneurial activities are integrated within everyday institutional practice. When these activities interact more consistently, universities are better positioned to support the circulation of ideas, the development of capabilities, and the utilization of research outcomes beyond purely academic contexts. Teaching and learning activities contribute to the formation of entrepreneurial thinking and skills, while innovation-related activities help connect academic work with industry expectations. Entrepreneurial initiatives further create opportunities for collaboration and more sustainable forms of value creation. Together, these interactions highlight the importance of integration across institutional functions in supporting entrepreneurial transformation.

The findings also indicate that entrepreneurial transformation does not depend on a single institutional factor, but emerges from the interaction of multiple conditions. Leadership commitment, flexible governance arrangements, and an organizational culture that is open to change play an important role in shaping this process. In addition, the development of human resources, curriculum responsiveness to social and market needs, collaboration with external stakeholders, and the management of research and digital infrastructure influence the coherence of transformation. Monitoring and evaluation support this process by enabling reflection, learning, and gradual

adjustment over time. Overall, the entrepreneurial university model developed in this study offers a useful conceptual perspective for understanding how competitiveness, socio-economic contribution, and institutional sustainability may be strengthened in private higher education.

Recommendations

Based on the learning-oriented insights generated through the Soft Systems Methodology process, the following recommendations are presented as directions for institutional development rather than prescriptive actions. They are intended to be adapted to the specific context, capacity, and priorities of private universities and their stakeholders. At the institutional level, attention may be directed toward strengthening academic staff capabilities and professional skills to support entrepreneurial transformation. Continuous reflection on curriculum relevance to social and market changes remains important to ensure responsiveness in teaching and learning. Opportunities for collaboration and knowledge utilization may be expanded through incubator activities, applied research initiatives, and internship programs involving students and academic staff. Support from university foundations, particularly through policy direction and resource allocation, can help sustain these initiatives over time.

Beyond internal arrangements, relationships with external actors also shape how transformation unfolds in practice. Engagement with government bodies can support research addressing social and economic concerns through collaborative programs, regulatory support, or funding opportunities. Integrating teaching, research, and industry interaction enhances the practical relevance of academic work. Over time, collaboration with business actors may develop into sustained partnerships that support institutional development and broader socio-economic benefits. Through these combined efforts, private universities can strengthen their capacity for learning-oriented and sustainable transformation.

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