This paper was presented at the XXXVII ISPIM Innovation Conference, held in Granada, Spain on 07 June to 10 June 2026. ISBN 978-952-65771-2-8.

Emerging entrepreneurial ecosystems and attention allocation in academic spin-offs

Aliki Nianaki*

Department of Business Administration, National and Kapodistrian University of Athens, Greece

E-mail: anianaki@ba.uoa.gr

Antonios D. Livieratos

Department of Business Administration, National and Kapodistrian University of Athens, Greece

E-mail: alivieratos@ba.uoa.gr

Christina Theodoraki

IAE Aix-Marseille Graduate School of Management, CERGAM (EA 4225), Aix-Marseille University, France

E-mail: christina.theodoraki@iae-aix.com

* Corresponding author

Abstract: Academic spin-offs play a critical role in translating university research into economic and societal value. These ventures are highly context-dependent and are often founded by faculty members who must balance academic responsibilities with venture development, limiting the attention they can devote to the firm. Prior research has paid limited attention to how entrepreneurial ecosystem conditions shape founders' attention allocation. Drawing on the attention-based view of the firm, this study examines how ecosystem-level conditions influence founders' attention allocation in emerging entrepreneurial ecosystems. Based on a qualitative longitudinal study of 18 ASOs in Greece and 78 interviews with founders and ecosystem actors, our findings show that ecosystem conditions redirect founders' attention toward fundraising, administrative coordination, and compliance activities rather than market development and commercialization. By identifying attention allocation as the mechanism linking ecosystem conditions to venture outcomes, the study explains why ASOs in emerging ecosystems often experience delayed commercialization despite strong technological potential.

Keywords: Entrepreneurship; Academic Spin-offs; Entrepreneurial Ecosystems; Attention-based view; Innovation; Intellectual Property; Technology Transfer

This paper was presented at the XXXVII ISPIM Innovation Conference, held in Granada, Spain on 07 June to 10 June 2026. ISBN 978-952-65771-2-8.

1 Introduction

Universities are expected to contribute to economic development by commercializing scientific knowledge, with academic spin-offs (ASOs) representing one of the main mechanisms through which this is achieved (European Commission, 2024). ASOs belong to the category of deep-tech startups, which arise from advanced scientific discoveries generated through frontier research and intensive R&D (Agarwal, 2024). Such ventures typically face a long and uncertain path from scientific discovery to market application (Lerner & Nanda, 2020). In addition, because ASOs are frequently created by faculty members who retain academic positions, founders often face constraints in the time and attention they can devote to venture development (Cantner et al., 2021). Being influenced by both their founders' actions and the conditions of the entrepreneurial ecosystems (EE) in which they operate, ASOs are recognized as highly context-specific organizations (Hossinger et al., 2020; Mathisen & Rasmussen, 2019).

Prior literature has generated important insights on the internal factors influencing the creation, development, and success of ASOs (see Hayter, 2013; Jonsson et al., 2018; Lockett et al., 2003). However, only a limited number of studies examine how EEs shape the creation, development and success of ASOs, and—to the best of our knowledge—none focuses on emerging EEs. This gap is particularly important because, in emerging EEs, institutional frameworks, funding structures, and support organizations are still evolving (Lenz et al., 2019). In such contexts, the interaction between ASO founders and ecosystem actors can create complex coordination demands (Cantner et al., 2021). This is particularly important because ASO founders—typically faculty members—must divide their attention between academic responsibilities and the development of their ASO.

To better understand this dynamic, this study builds on the attention-based view of the firm (ABV), which conceptualizes managerial attention as a scarce organizational resource that shapes strategic behavior and organizational outcomes (Ocasio, 1997). Although the ABV has been widely applied in management research, empirical studies have rarely examined how EE-level conditions structure entrepreneurial attention, particularly in the context of academic entrepreneurship and in emerging EEs. Addressing this gap, this study examines how founders' attention allocation shapes the development of ASOs. Specifically, we ask:

How do EE-level conditions influence ASO founders' attention allocation within emerging entrepreneurial ecosystems?

We investigate this question through a qualitative longitudinal study of 18 ASOs established in Greece following the introduction of a new legislative framework for academic entrepreneurship. The analysis utilizes 78 interviews conducted across multiple ecosystem actors over three interview rounds. Our findings show that ecosystem-level conditions redirect founders' attention toward fundraising, coordination, and compliance activities rather than toward market development and commercialization. By uncovering attention allocation as the mechanism through which ecosystem conditions influence venture outcomes, the study advances our understanding of why ASOs in emerging EEs often experience delayed commercialization despite strong technological potential.

2 Literature Review

2.1 Firm-Level determinants of academic spin-off performance

ASOs emerge from the commercialization of scientific knowledge generated within universities, allowing research outputs to be translated into economic value for both institutions and researchers (Wood, 2011). Prior studies identify several determinants of ASO performance, including founders' entrepreneurial commitment, leadership structure, organizational capabilities, and institutional support (Hayter, 2013; Hossinger et al., 2020). In particular, ASOs led by non-faculty CEOs tend to achieve stronger commercialization outcomes due to greater access to venture capital and professional management (Hayter, 2013). Other factors associated with ASO growth include marketing capabilities, market intelligence, team heterogeneity, legal expertise, and entrepreneurial training (Hayter, 2013; Vega-Gómez et al., 2020). Given the multiple determinants of ASOs' performance, increasing attention has been directed toward the role of EEs, which provide the institutional, financial, and relational conditions that support the creation and growth of these companies (Cerver-Romero et al., 2022).

2.2 Entrepreneurial Ecosystems as Contexts for Venture Development

EEs refer to the combination of social, political, economic, and cultural elements within a region that support the creation and growth of innovative startups and encourage entrepreneurial risk-taking (Spigel, 2017). This perspective emphasizes that entrepreneurial outcomes are shaped not only by firm-level characteristics but also by the broader institutional environment (Brown & Mason, 2017). Recent literature highlights the systemic and dynamic nature of EEs, which evolve over time and support high-growth entrepreneurship through interconnected cultural, social, economic, and political factors (Brown & Mason, 2017; Kansheba & Wald, 2020; Cantner et al., 2021). Accordingly, EEs can be understood as systems of interdependent actors whose interactions enable access to critical resources and knowledge (Stam & van de Ven, 2021). Given that EEs shape the availability of resources, networks, and institutional signals, they also influence which opportunities entrepreneurs notice and prioritize, highlighting the importance of attention allocation in entrepreneurial decision-making (Ocasio, 1997).

2.3 The attention-based-view of the firm as an explanation of entrepreneurial decision-making

The ABV of the firm has gained increasing prominence in management research as a lens for understanding how decision-makers allocate attention and shape organizational outcomes (Brielmaier and Friesl, 2023). Originally introduced by Ocasio (1997), the ABV posits that organizational behavior is shaped by what decision-makers focus their attention on. Attention is shaped by organizational structures, communication channels, and institutional contexts, which guide what issues decision-makers attend to and how they interpret them (Ocasio, 1997). As such, the allocation of attention influences strategic decision-making and organizations' ability to identify opportunities, coordinate actions, and mobilize resources (Ocasio, 1997).

In complex and uncertain environments, such as EEs, attention becomes a critical mechanism through which actors prioritize information, manage interdependencies, and

respond to emerging opportunities (Nicolini & Mengis, 2024). This is particularly relevant in deep-tech ecosystems, where innovation processes are characterized by high uncertainty, long development cycles, and strong knowledge interdependencies across diverse actors (Lerner & Nanda, 2020). As ASOs constitute a subcategory of deep-tech startups, their founders must navigate similarly complex and uncertain environments while balancing academic responsibilities. This makes attention allocation a central mechanism through which EE conditions shape the development and commercialization of ASOs.

3 Methodology

This study adopts a qualitative, longitudinal research design in order to examine how founders allocate their attention over time. A qualitative approach is appropriate given the exploratory nature of the research question and the limited empirical evidence on ASO development in emerging EEs (Chetty et al., 2013). The longitudinal design allows us to capture changes in founders' attention allocation and ASOs development over time.

The empirical setting comprises 18 ASOs established in Greece under the recently introduced legislative framework for academic entrepreneurship (Law 4864/2021). At the time of the first round of interviews (January 2025), approximately 60 ASOs had been formally established in the country, positioning our sample as a substantial share of the national ASO population. Each ASO involves at least one faculty member as founder.

Data collection spans a two-year period and includes four rounds of semi-structured interviews designed to capture the interaction of ASOs with the EE. To date, three rounds of interviews have been completed (January 2025, July 2025, and January 2026). As shown in table 1, in total, 78 interviews have been conducted with multiple ecosystem actors, including ASO founders, academia (Technology Transfer Officers - TTOs), policymakers, entrepreneurship support organizations (ESOs) representatives, and investors. This multi-actor design allows us to capture complementary perspectives on the conditions within the EE we study while multiple data sources, including interviews, documents, and field observations, were used to employ triangulation.

Table 1 Key interviewees.

Type of actor	*Number of interviews*	*Number of rounds*	*Total*
ASO founders	18	3	54
Academia	5	1	5
ESOs	9	1	9
Investors	7	1	7
Policymakers	3	1	3
Total	**42**	**7**	**78**

Interviews followed a semi-structured interview guide to ensure consistency while allowing respondents to elaborate on emerging issues. All interviews were recorded and transcribed. Data were analysed using NVivo 15 software. Following the Gioia methodology (Gioia et al., 2013), the analysis proceeded through iterative coding stages. First-order concepts were derived directly from participants' responses. These were then

grouped into second-order themes reflecting broader patterns related to founders' attention allocation and ecosystem conditions. Finally, these themes were aggregated into higher-level dimensions explaining how ecosystem-level conditions influence founders' attention allocation. Throughout the analysis process, coding iterations and comparisons across interview rounds were conducted to capture emerging patterns and dynamics.

4 Findings

The analysis of the data resulted in three main findings, which are presented in the following sections.

4.1. Investors' misalignment limits investment in ASOs

Across cases, participants consistently report significant difficulty in securing investment. A central issue concerns the limited ability of investors to evaluate these research-based ventures. Many venture capital funds lack partners with deep scientific or technological expertise, making it difficult to assess the value of the underlying research. As a result, investors frequently struggle to understand the technological potential of ASOs and are reluctant to invest. Even within the same venture capital fund, founders report that different partners often evaluate the same venture in different ways. This inconsistency requires founders to repeatedly adapt their pitch narratives to different partners, with no guarantee of a coherent response from the fund. Several founders described preparing multiple versions of pitch decks for different partners within the same fund, often without receiving a clear investment decision.

When investors do recognize the technological potential of an ASO, negotiations frequently shift toward governance and team structure. In several cases, investors request that the academic founder step back from an executive role or reduce their involvement in order for an external market-oriented CEO (out-CEO) to take leadership. Academic founders, however, are often reluctant to reduce their role in the ASO, leading to stalled negotiations. Investors also raise concerns regarding team cohesion, intellectual property (IP) ownership, and royalty payments to universities.

These challenges are clearly reflected in the evolution of two cases observed in this study. During the first round of interviews, both ventures were engaged in advanced investment negotiations with Greek venture capital funds. By the second interview round, however, both deals remain pending due to unresolved legal and administrative issues related to IP and organizational control structures. Similar patterns are observed across the ecosystem, suggesting that founders perceive private investment as difficult to assess.

4.2. Public funding programmes become the dominant revenue strategy

Given the limited access to private investment, founders across cases increasingly redirect their attention toward public funding programmes as a primary strategy for generating revenues. Many founders described proposal writing as a familiar academic activity requiring comparatively less effort than market-oriented tasks such as customer development or commercialization. As one founder explained, grant applications are "what we know how to do". This tendency is reinforced by the structure of national and European funding programmes. While these programmes provide an important source of financial

support, several founders reported that eligibility criteria often do not align with the characteristics of early-stage ASOs. For example, some national programmes require prior turnover or evidence of market activity, excluding newly established ventures, such as ASOs established under the 2021 law. Nevertheless, public funding remains one of the few accessible financial resources for many ASOs.

As a result, proposal writing frequently becomes a central activity. In several cases, founders describe proposal submission as one of their primary operational goals each semester, running in parallel with — rather than following — product development. One founder reports that 100% of company revenues originated from research programmes, with zero commercial sales at the time of the second interview round. Taken together, these findings indicate that limited access to private investment channels redirects founders' attention toward grant acquisition and project-based revenues rather than toward market development.

4.3. Administrative complexity absorbs founders' attention and limits commercialization

In addition to funding challenges, founders report spending a substantial share of their time navigating administrative procedures, IP negotiations, and regulatory uncertainties associated with the creation and operation of ASOs. A recurring issue concerns the capacity of TTOs. Several founders describe TTOs as understaffed and lacking specialized expertise required to support ASO formation and IP negotiations. As a result, discussions regarding IP ownership, licensing agreements, and royalty payments often become lengthy and complex. These negotiations are further complicated by the absence of standardized arrangements across Greek universities. Participants reported considerable variation in IP ownership rules, royalty rate payments, and university equity participation requirements. This heterogeneity suggests a still-emerging ecosystem in which universities, institutional practices, and key actors remain insufficiently aligned to effectively support ASOs formation and growth.

In parallel, the repeated engagement with venture capital investors described above often requires founders to devote time preparing and revising pitch materials without resulting in investment agreements. In contrast, public funding programmes tend to reward administrative and proposal-writing capabilities that academic founders already possess. Consequently, founders increasingly allocate attention toward bureaucratic and coordination activities rather than toward market-facing tasks.

These ecosystem conditions are reflected in founders' time allocation. Only a small number of academic founders reported taking a sabbatical leave in order to work full time in the ASO. Most founders indicated that they dedicate less than 15% of their time to the ASO while continuing their academic responsibilities. As a result, activities such as strategic planning, market development, and commercialization receive comparatively limited attention. Overall, these findings suggest that administrative complexity and institutional uncertainty systematically absorb founders' attention, leaving limited capacity for market-oriented activities and strategic scaling decisions.

5 Discussion

This study contributes to the ABV of the firm by extending its application to the context of academic entrepreneurship. While the ABV emphasizes that managerial attention is a scarce organizational resource, empirical research (Ocasio, 1997) has rarely examined how ecosystem-level conditions structure entrepreneurial attention. Our findings demonstrate that in emerging EEs, institutional complexity and funding structures divert founders' attention toward coordination, compliance, and funding acquisition activities.

Second, the study extends research on ASOs by shifting attention from traditional firm-level determinants of performance toward ecosystem-level dynamics. Prior studies have largely examined the internal capabilities, team composition, or resource endowments of ASOs as drivers of success (Hayter, 2013; Jonsson et al., 2018; Lockett et al., 2003). While these factors remain important, our findings show that EE conditions can shape how founders allocate their limited attention. In the emerging EE examined in this study, founders' attention is frequently redirected toward investor negotiations, grant acquisition, and administrative coordination rather than toward commercialization activities.

Third, we extend the research on academic entrepreneurship and EEs by identifying founders' attention allocation as a key mechanism linking ecosystem conditions to the development trajectories of ASOs. The study contributes to EE research by highlighting the role of institutional and funding structures in shaping entrepreneurial behavior. Rather than focusing solely on the presence or absence of ecosystem resources, our findings demonstrate how specific conditions and evaluative perceptions among ecosystem actors — including investors, funding programmes, and university governance structures — generate attention demands that divert founders from market-facing activities. These dynamics create a context in which founders must continuously respond to heterogeneous expectations, procedural requirements, and funding logics, redirecting their limited attention toward negotiation, compliance, and coordination rather than toward commercialization.

By identifying attention allocation as the mechanism linking ecosystem conditions to venture outcomes, the study provides a new perspective on why ASOs in emerging EEs often experience delayed commercialization despite strong technological potential. Our findings suggest that policies aimed at strengthening academic entrepreneurship should move beyond the improvement of founders' capabilities.

This study also has limitations that open opportunities for future research. The empirical analysis does not focus on a single technological sector but includes ASOs from multiple scientific domains. While this approach allows us to capture ecosystem-level dynamics across the academic entrepreneurship landscape, sector-specific conditions may shape commercialization pathways differently.

References

Agarwal, S. (2024). Marketing for deep tech startups. Int. J. Sci. Res, 13, 1728-1731.

Brielmaier, C., & Friesl, M. (2023). The attention-based view: Review and conceptual extension towards situated attention. International Journal of Management Reviews, 25(1), 99-129.

Brown, R., & Mason, C. (2017). Looking inside the spiky bits: a critical review and conceptualisation of entrepreneurial ecosystems. Small business economics, 49(1), 11-30.

Cantner, U., Cunningham, J. A., Lehmann, E. E., & Menter, M. (2021). Entrepreneurial ecosystems: a dynamic lifecycle model. Small Business Economics, 57(1), 407-423.

Cantner, U., Doerr, P., Goethner, M., Huegel, M., & Kalthaus, M. (2021). A procedural perspective on academic spin-off creation: The changing relevance of academic and commercial logics. IZA-Institute of Labor Economics.

Cerver-Romero, E., Mohedano-Suanes, A., & Pardo-del-Val, M. (2022). AN ENTREPRENEURIAL ECOSYSTEM FOR SUCCESSFUL ACADEMIC SPIN-OFFS. Transformations in Business & Economics, 21.

Chetty, S. K., Partanen, J., Rasmussen, E. S., & Servais, P. (2014). Contextualising case studies in entrepreneurship: A tandem approach to conducting a longitudinal cross-country case study. International Small Business Journal, 32(7), 818-829.

Djokovic, D., & Souitaris, V. (2008). Spinouts from academic institutions: a literature review with suggestions for further research. The journal of technology transfer, 33(3), 225-247.

European Commission. (2024). Spin-offs: Reinforcing a vector of value creation for the EU-27 – The deep tech opportunity.

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. Organizational research methods, 16(1), 15-31.

Hayter, C. S. (2013). Harnessing University Entrepreneurship for Economic Growth: Factors of Success Among University Spin-offs. Economic Development Quarterly, 27(1), 18–28.

Hossinger, S. M., Chen, X., & Werner, A. (2020). Drivers, barriers and success factors of academic spin-offs: a systematic literature review. Management Review Quarterly, 70(1), 97–134.

Jonsson, L., Santurio, M., & Micucci, P. (2018). Are there specific factors that increase the possibility of success for university spin-off companies? A longitudinal study of 50 companies over nineteen years. International Journal of Technology Management & Sustainable Development, 17(3), 253-274.

Kansheba, J. M. P., & Wald, A. E. (2020). Entrepreneurial ecosystems: a systematic literature review and research agenda. Journal of Small Business and Enterprise Development, 27(6), 943-964

Lenz, A. K., Sutter, C., Goldszmidt, R. B., & Zucco, C. (2019, July). Focus! A Theory of Entrepreneurial Attention in Emerging Economies. In Academy of Management Proceedings (Vol. 2019, No. 1, p. 16666). Briarcliff Manor, NY 10510: Academy of Management.

Lerner, J., & Nanda, R. (2020). Venture capital's role in financing innovation: What we know and how much we still need to learn. Journal of Economic Perspectives, 34(3), 237–261.

Lockett A, Wright M and Franklin S (2003) Technology transfer and universities' spin-out strategies. Small Business Economics 20(2). Springer Nature: 185–200.

Mathisen, M. T., & Rasmussen, E. (2019). The development, growth, and performance of university spin-offs: a critical review. The Journal of Technology Transfer, 44(6), 1891–1938.

Nicolini, D., & Mengis, J. (2024). Toward a practice-theoretical view of the situated nature of attention. Strategic Organization, 22(1), 211-234.

Ocasio W (1997) Towards an Attention-Based View of the Firm. Strategic Management Journal 18. Wiley: 187–206.

Spigel B, Harrison R. Toward a process theory of entrepreneurial ecosystems. Strategic Entrepreneurship Journal. 2018;12:151–168. https://doi.org/10.1002/sej.1268

Stam, E., & van de Ven, A. (2021). Entrepreneurial ecosystem elements. Small Business Economics, 56(2), 809–832

Vega-Gómez, F. I., Miranda González, F. J., & Pérez-Mayo, J. (2020). Analyzing the Effects of Institutional- and Ecosystem-Level Variables on University Spin-Off Performance. Sage Open, 10(2).

Wood, M. S. (2011). A process model of academic entrepreneurship. Business horizons, 54(2), 153-161.

Areas for feedback & development

The author particularly welcomes feedback on:

1. assessing the generalizability of the findings beyond the specific empirical setting,
2. arguments for the justification of Greece as an empirical setting
3. developing criteria for distinguishing successful from less successful ASOs, beyond performance or survival outcomes.