Platforms and Ecosystems: New Perspectives in the Era of Data, Analytics, and AI: An Introduction for HICSS-58

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1. Introduction

Understanding modern-day competition and the survival of organizations oftentimes requires an ecosystem lens. This is because digital technologies have enabled new complementarities between actors within and across organizations and industries (e.g., Cusumano et al., 2019; Gawer 2021). The increasing platformization of firms and technologies has important implications for how companies create and capture value. In this new "digital first" economy (Baskerville et al. 2020), transaction and innovation platforms have become dominant forms of organization (Gawer 2021, de Reuver et al. 2018, van Dijck 2018). As scholars interested in platforms and ecosystems, we (1) face new phenomena, providing insights from (2) new empirics, that might (3) require new methods, and (4) new theories.

In preparing for the minitrack, we called for investigations and contributions on what emerges when platforms and ecosystems intersect with a) data, analytics, and AI, b) global grand challenges, c) innovation, policy, and purpose and d) new methodological approaches. This year was when the ability to compute at a global level gave OpenAI and a few other keystones the means to reach levels where communicative AI is able to generate content that is valuable enough to inspire strategic investments in AI. Therefore, we ask: what has changed in what we know of platforms and ecosystems and what remains the same?

2. The 2025 minitrack

We were delighted to receive ten (10) submissions for this year's instance of our minitrack. Author groups from Europe and North America have submitted their work. With the support of 26 outstanding reviewers, we finally accepted five (5) papers for publication. We thank the reviewers for their constructive and valuable comments, which inspired both the authors and the organizers.

This minitrack marks the tenth anniversary of this minitrack series on platforms and ecosystems. Altogether, our minitrack has contributed 71 papers to fruitful discussions at HICSS.

Indicating the breadth of the investigations reported in the minitrack, all submissions varied in methodological approaches. They ranged from computational network and graph modeling and visualization methods to quantitative hypothesis testing, action design research, and conceptual arguments. The continued dominance of empirical investigations speaks to the origins of this minitrack. The minitrack has a long history in inviting for data-centric investigations of platforms and ecosystems.

The use of digital trace data (Berente, Seidel & Safadi, 2019; Miranda et al., 2022) in analyzing ecosystems and platforms has been a major modus operandi in this minitrack series (Basole, 2020; Russell, Rothe, & Huhtamäki, 2021). While maintaining the empirical ethos, manuscripts have become less descriptive over time. Instead, all accepted manuscripts sought to contribute to ongoing theoretical conversations on particular actors or mechanisms within platforms and ecosystems. This speaks to a growing conceptual maturity of the field– the institutional influence of management information systems as a field to drive toward theoretical contributions. In recent years, this maturation has been exemplified by new taxonomies and systematic literature reviews. Despite the increasing maturity, there is no harmonious use of the core concepts, platforms and ecosystems. While conceptual clarity and harmonious use can help build an accumulative research tradition on platforms and ecosystems, current openness towards concepts still invites new fields of

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research. Our insights that current research submitted to HICSS contributes more directly to theory discourses might indicate a shift that can result in greater conceptual clarity.

The natural progression from individual firms and platforms toward more holistic viewpoints on mechanisms within and characteristics of ecosystems continues this year. Here, two main characteristics are particularly visible. First, studies go beyond the boundaries of individual platforms and the keystone operating them to investigate multi-platform constellations, especially in the context of AI. Second, a warmly welcome approach is to investigate the societal and public value that platforms can provide instead of reducing platforms to a method of optimizing for capital extraction.

A novel current in the discussion around AI and data is the investigation of whether the established theories continue to hold during and after the turmoil. Existing knowledge and theories on platform boundaries, the roles of keystones and complementors, the mechanisms in value creation are explored in this year's contributions.

To structure the discussion in the minitrack, we analyzed the five accepted contributions and identified two themes, strategies for AI on platforms, and strategies for platforms toward having a societal impact.

3. Themes

3.1 Strategies for AI in platforms

We learned from three manuscripts how the global trend of improving AI technologies, together with a tidal wave of increasing access to data, is impacting the power balance and equilibria within and across platforms and ecosystems. An investigation of browser plugins illuminates mechanisms that enable the formation of boundary-breaking platform constellations. In their work, "The Concept of Platform Federations–A Case Study of ChatGPT Browser Plugins", Schmidt, Alt & Zimmermann (2025) introduce a novel concept of platform federations to investigate and theorize interactions between platforms. They assemble a set of more than a thousand ChatGPT plugins and design a network science-based approach to investigate the emergent platform federations. The main contribution of the paper is the theorization and empirical illustration of the platform federation concept.

Second, in their work "Multihoming Revisited - The Impact of Data Network Effects on Complement-level Value Creation,", Knorr et al. (2024) provide a novel perspective on multihoming that employs theorizing from data network effects (e.g., Gregory et al., 2021). The study reveals that negative effects on complement quality continue to hold even when developers have access to wider data and increasingly capable platform-agnostic toolkits. The findings provide a new perspective on multihoming in that we learn about new complementary effects, where complementors include learnings acquired at one platform to improve a complement of another platform. The empirical insights challenge the existing perspective of multihoming being a risk that asks platform providers to delimit.

The paper "Understanding Partnering Strategies in the Low-Code Platform Ecosystem" concludes the session (Naqvi, Zimmer, Drews & Basole 2025). Low-code platforms allow coding with pre-built modules and visual design tools rather than line-by-line coding. Partnering is crucial in this context since such capabilities cannot be delivered by single vendors. By examining 16 low-code platform ecosystems and more than 1,000 partnerships, the study visualizes these dynamic ecosystems, shows that vendors rely on very different partnering strategies, and identifies key strategic patterns.

3.2. Strategies for platforms toward a societal impact

The second theme answers our call for exploring the potential that platforms have in solving problems and challenges at the societal level and creating public value beyond individual businesses.

The second theme is opened by the paper "How can Platform Ecosystems support Mission-Specific Innovation Systems" (Sobota, Wiarda, Coenen & Ortt 2025). It explores how platform ecosystems could help orchestrate key activities in the pursuit of missions that target societal challenges. It specifically considers how such key activities can be supported in mission-specific innovation systems, a type of innovation system that arises due to the transformative demand of mission-oriented innovation policy.

The second theme and the entire minitrack are concluded with a paper investigating public value creation using a platform-based approach. In "Design Principles for Complementary Business Models - An Action Design Research on Public Interest in the European Health Data Space," Kari, Schurig & Gersch

(2025) engage with the development processes of 25 business models through an action design research process. These business models create complementary value on health data in the context of the European Health Data Space (EHDS) regulation. Imperatively, following the regulation, the objective of these business models is to balance public and individual value. The study concludes with four design principles that allow for the design of EDHS-compliant business models.

Studies of the second theme, hence, reflect the growing engagement of management scholars with grand challenges, by contributing managerial insight towards the resolution of grand challenges (George, Howard-Grenville, Joshi & Tihanyi 2016). The second theme also calls for the engagement of platform scholars with grand challenges (Ritala 2023), by triggering the necessary transformative system change (Schot & Steinmueller, 2018).

4. Invitation to inquiry

In this HICSS minitrack, we look back on ten years of research on platforms and ecosystems. Emblematic of this history, the current minitrack is rich in empirical material and methodological diversity. Understanding the multiplex nature of ecosystems and the complexity of competing and collaborative relationships between complementors, users, and platform providers, we find that limitations to a few methodological approaches do not serve fair justice to the phenomena. At the same time, we saw a change in the role of technologies that change the environments in which platforms and ecosystems arise and grow, or where platform providers themselves dominate substantial changes. We believe that this year's focus on AI is not only following a recent trend in IS or management research. Instead, it showcases a slow change that we have already seen in the last decade, where we, among others, saw author groups discuss the impacts of distributed ledger or metaverse technologies on digital infrastructures and behavior within ecosystems.

Looking forward, we believe that the impact of new digital technologies on the dynamics and mechanisms of platforms and ecosystems continues to require further investigation. At the same time, we cannot let technological determinism rule our scholarly work on platforms and ecosystems. Recent studies in the IS community and political discussions on the European AI Act, the Data Act or decisions to dismantle platforms such as TikTok in the US or EU, open new questions that IS scholars need to provide answers for.

Platforms and ecosystems span boundaries of organizations, knowledge, digital representation and architectures, as well as physical boundaries. Lately, Organization Studies has highlighted an additional need for research in this context by launching a Special Issue on "Platform Organizations and Societal Change" (Alaimo et al. 2025). Thus, ecosystems operate under multiple legislations, ethical and moral views, and perspectives. When we acknowledge the societal impact of platforms and ecosystems, scholars will need to understand how notions of global and local security, protectionism, or questions of sovereignty influence the management of platforms and ecosystems. This would be ever more so important when researchers seek to understand how non-Western platforms, like TikTok, Alibaba, or Temu, operate across ecosystems worldwide. At the moment, many platform studies focus on providers from the EU or the USA–this year we saw only individual platforms from other parts of the globe. These phenomena, naturally, engrain the "European values" or "sovereign cloud" characteristics without being able to problematize their impact on management. Instead, we hope that future platform research will be able to empirically contrast and compare the effects of provider "values" on management and dynamics in ecosystems.

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