Introduction to Managing the Dynamics of Platforms and Ecosystems Minitrack

Jukka Huhtamäki
Tampere University
jukka.huhtamaki@tuni.fi

Martha G. Russell
Stanford University
martha.russell@stanford.edu

Kaisa Still
University of Oulu
kaisa.still@oulu.fi

1. Introduction

Management practices incorporate many critical activities: designing, planning, implementing, decision making, and evaluating. Some but not all of these may be effective in managing platforms and ecosystems. Contemporary organizations struggle with managing the associated complexities. To support understanding and acting in these interconnected, even hyper-connected economies, we have applied the following interrelated concepts:

- Ecosystems are complex socio, economic-, and technical systems that can be characterized by human networks that generate productive output on a sustainable basis. Business ecosystems consist of interdependent firms that form symbiotic relationships to create and deliver products and services.
- Platforms, as conceptual or technological constructs that structure the relationships, provide a context for connections and value creation in an ecosystem. In practice, digital platforms amplify the volume of opportunity in scaling toward success, allowing for multi-sided markets to emerge.

During the five years of this minitrack, platform business models have emerged and grown. Continued emphasis on the communities and ecosystems of platforms has amplified the importance of this topic. While principles and tactics for managing platforms and ecosystems are emerging and being implemented, additional cross-disciplinary thought leadership and experience sharing are needed.

In 2020, the minitrack on Managing the Dynamics of Platforms and Ecosystems is particularly interested in research that focuses on the dynamic aspects of platforms and ecosystems. How do platforms and ecosystems change? What is the nature of their evolution? What are the mechanisms driving evolution? How do platforms and ecosystems adapt to technological, social, economic, or even political changes? How can specific platform and ecosystem actors succeed with these dynamics?

2. The minitrack call and response

We called for papers on topics including, but not limited to:

- Theories, models, and empirical studies of platform and ecosystem dynamics
- Genesis of platforms and ecosystems, including the role of boundary resources
- Platforms and ecosystems for sustainable firm innovation
- Evolving platform and ecosystem business models
- Mechanisms driving the dynamics and evolution of platforms and ecosystems
- Technological and competitive disruption in ecosystems
- Dynamic analytics, visualization, and decision support for platform and ecosystems
- Best practices in platform and ecosystem management
- Orchestration strategies for platforms and ecosystem
- Case studies of successes, failures, and unintended consequences of platforms and ecosystems

We were delighted to receive ten (10) papers by US and European researchers. The papers we received addressed a wide range of issues, including ecosystems, platforms and platform ecosystems, with themes on data-driven ecosystem analysis, business models, platform-based organizing, and others.

With the support of more than 30 outstanding reviewers, we accepted five (5) papers for this minitrack. We thank the reviewers for their constructive and valuable comments, which inspired all the authors, as well as the organizers.

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3. The minitrack agenda

The five (5) accepted papers will be presented in two sessions of the minitrack. Please note that interactions and discussions are a relevant part of the minitrack sessions.

For HICSS 53, the selected authors' contributions can be categorized into two streams of platform and ecosystem research. The first stream takes a data-centric view of platforms and ecosystems. The second stream investigates the way actors are organizing on and for platform ecosystems.

3.1. Data-centric view of platforms and ecosystems

The data-centric view of platforms and ecosystems stream includes three papers.

Platforms are inherently digital and, therefore, both their development and operations take place on the platforms that emit digital data. An increasing amount of research uses the resulting datasets to investigate platforms and related ecosystems. In **"Understanding Ecosystem Data,"** *Rahul C. Basole* takes stock of the existing sources of data for ecosystem analysis and presents an epistemological framework to support the coordinated use of multiple datasets in data-driven ecosystem analysis. His approach empowers researchers and practitioners with a data identification and selection process and, therefore, stimulates the potential for novel data-driven ecosystem intelligence.

The digital infrastructure that startups use to implement their platforms and services is both an asset and a significant risk to the startups. In **"On the Heterogeneity of Digital Infrastructure in Entrepreneurial Ecosystems,"** *Matthias Schulte-Althoff*, *Kai Schewina*, *Gene Moo Lee*, and *Daniel Fürstenau* employ a data-driven approach to measure the heterogeneity of startups' digital infrastructure in the context of entrepreneurial ecosystems. They contribute both by presenting an approach to use publicly available data for measuring digital infrastructure heterogeneity and show that age, total funding, and the number of funding rounds influence the heterogeneity of a startup's digital infrastructure.

Data is an important driver not only in the investigations of platforms and ecosystems but in the platform business in general. A dedicated category of platforms operates as a data marketplace, connecting data providers and data users. In **"Discovering Business Models of Data Marketplaces,"** *Michael Fruhwirth*, *Michael Rachinger*, and *Emina Prlja* analyze a sample of 20 data marketplaces to identify the dimensions and characteristics of data marketplace business models. The four derived archetypes of data marketplaces provided a solid basis for future research and support practitioners in designing business models for future data marketplaces. Further, the systematic taxonomy-building process that the authors use finds applications in the upcoming platform and ecosystem investigations.

3.2. Organizing on platform ecosystems

The stream on organizing on platform ecosystems includes two papers.

Organizations are increasingly operating on digital platforms and are, therefore, influenced by the innovations and associated changes of these platforms. In **"Modular Change in Platform Ecosystems and Routine Mirroring in Organizations,"** *Stefan Seidel, Thomas Grisold*, and *Nicholas Berente* explore the ways changes on digital platforms are mirrored in the organization routines in which these technologies are implicated. They further integrate the concept of modular operators to conceptualize these changes. The paper makes a significant contribution by addressing the gap between two research streams, that is, organization research and platform ecosystem research. Moreover, their conceptual framework suggests future research on the processes of change and innovation that take place between organizations and their broader ecosystems.

Complementors are a core source of value in platform ecosystems. They are simultaneously collaborating with and facing competition from the platform owner. In **"Coopetition Balance and Coopetition Capability in Platform Ecosystems: Complementors' Perspective,"** *Dong Yoo*, *James Roh*, *Sunyoung Cho*, and *Ma Ga Yang* investigate the role of coopetition balance and coopetition capability in coopetition between complementors and platform owners. Their survey-based research findings indicate that cooperation capability is a critical factor in relation performance in this context. The findings inform complementors to prepare for competition while co-creating value with the platform owner.

4. For the presenters

Please prepare a **15-minute presentation** of your paper with the following components, noting that HICSS suggests the use of 4 or 5 presentation slides with several bullet points on each: (1) Your/team introduction with relevant background info, and (2) The message of your paper: convey the main concepts, key results, implications, and future work.

Allow for a **15-minute discussion** after your presentation. Note that a discussion following each presentation is a very valuable feature of a HICSS conference. The discussion is intended to connect your presentation to the theme of the session. Therefore, we value your comments and insights that addressing those objects.

You are responsible for bringing your own computer. However, bringing a USB flash drive as a backup is recommended. Do not use time allocated to other presenters by going over your time. Please honor the 5-minute warning given before the end of your allotted time.

5. You are warmly welcome!

Please join us for exciting presentations and discussions in the workshop! We are looking forward to the presenter insights, both theoretical as well as practical, into managing the dynamics of platforms and ecosystems—as well as to audience contributions to the discussions!