



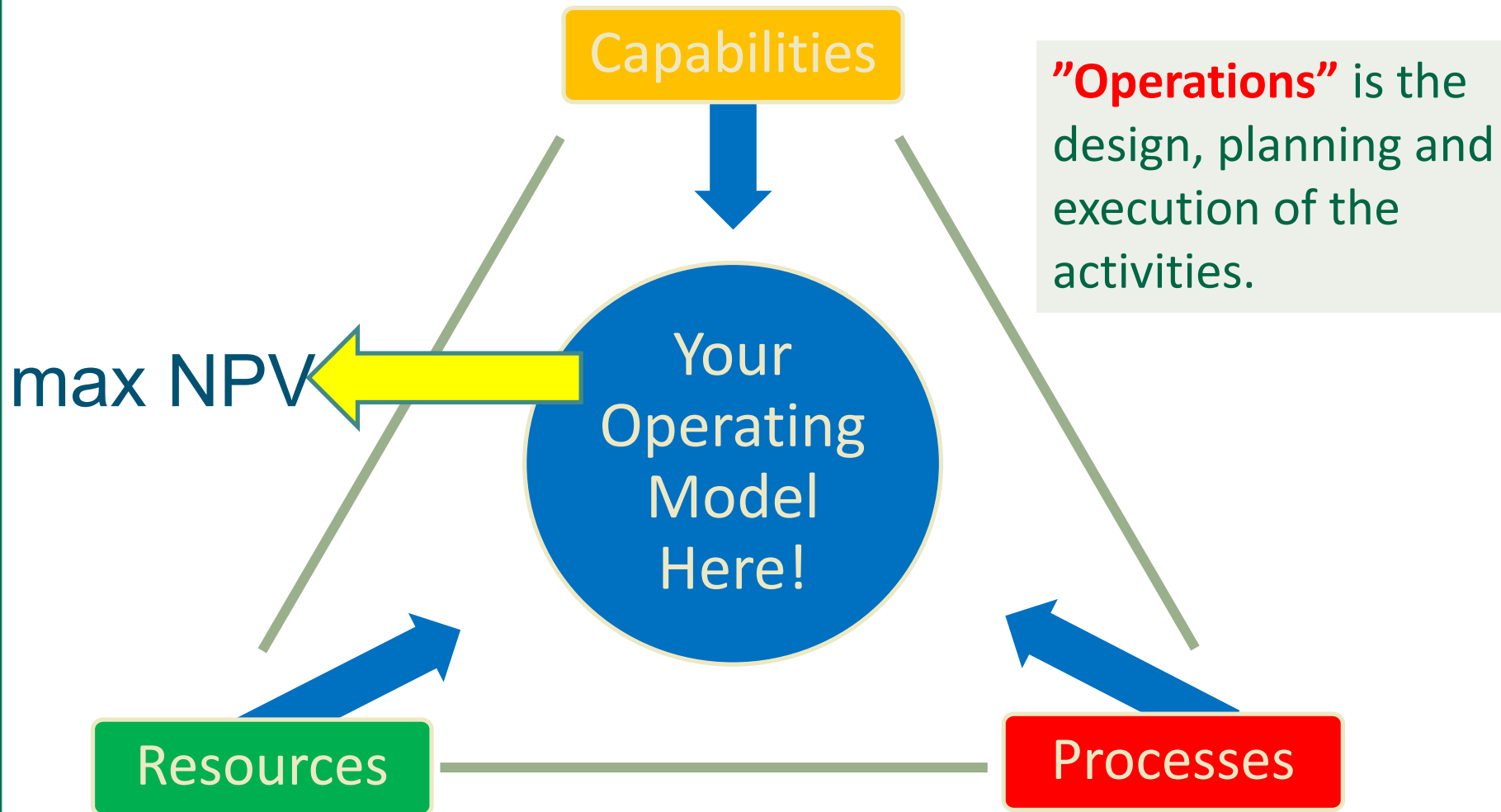
Managing Intangible Resources over the Entrepreneurial Firm Lifecycle

Sinan Erzurumlu, 8/10/2019, AoM-Boston

Myth:

OPERATIONS IS MANUFACTURING

Operations transfers strategy into action



The Resource View of Operations

- Tangible Resources
 - Human Resources (People)
 - Capital Assets (Plant, property and equipment as shown on the balance sheet)
- Intangible Resources
 - Time
 - Relationships with suppliers or customers
 - Intellectual property
 - Reputation and brands
 - Knowledge and experience in processing, technologies, and markets

“How do entrepreneurs identify, convert and mobilize resources they do not control and in spite of the liabilities of being new?” (Stinchcombe, 1965)

Constraints for the entrepreneurial firm

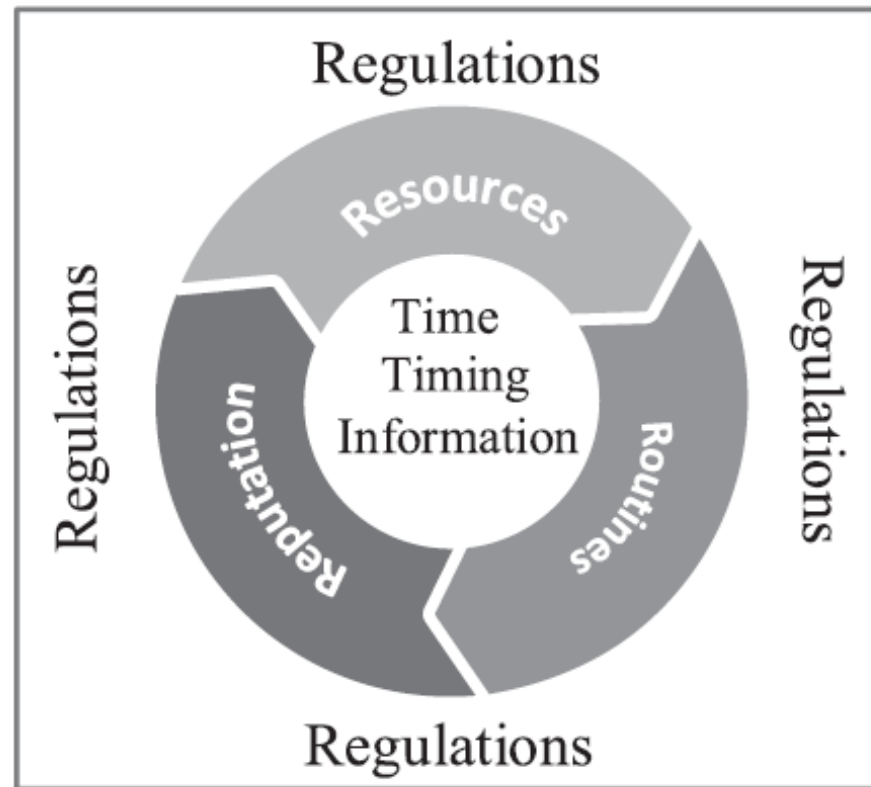


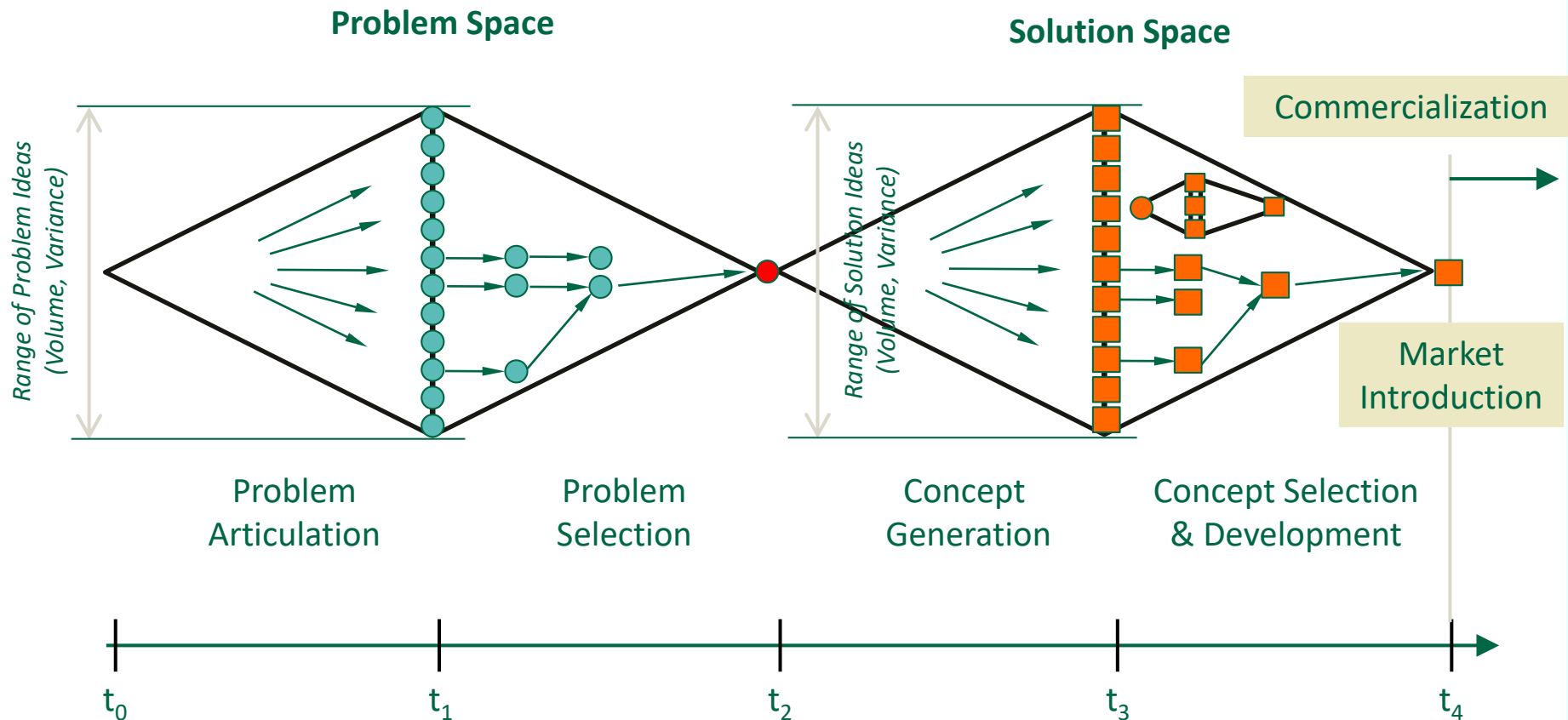
Fig. 1. Time, timing, and information-driven view of the 4Rs interactions.

Lévesque, M., & Joglekar, N. (2018). Guest Editorial Resource, Routine, Reputation, or Regulation Shortages: Can Data-and Analytics-Driven Capabilities Inform Tech Entrepreneur Decisions. *IEEE Transactions on Engineering Management*, 65(4), 537-544.

The Entrepreneurial Process

- Operations management refers to “the selection and management of transformation processes that create value for society” (Lovejoy, 1998, p. 106).
- **Operational entrepreneurship** can be defined as “*the selection and management of transformation processes for recognizing, evaluating, and exploiting opportunities for potential value creation*” (Shepherd & Patzelt, 2013, p. 1416).
- Joglekar and Lévesque (2013, p. 1321) “highlight four stages in the venture creation and technology commercialization process—discover, commit, organize, and grow—that enable us to define it as an **entrepreneurial value chain**”.

To achieve innovation as a *result* requires understanding of innovation as a *process*.



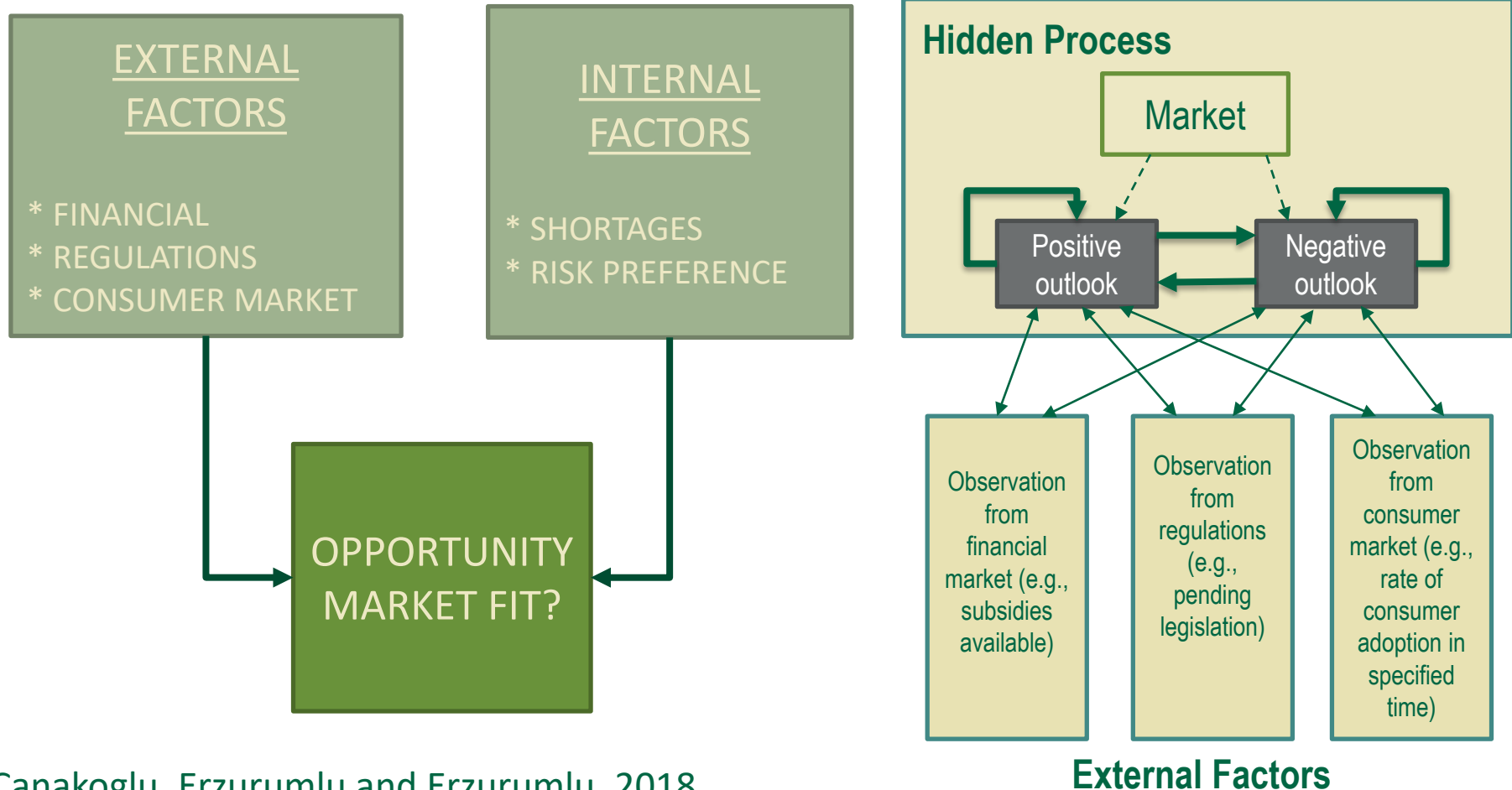
Marion, T. J., & Fixson, S. (2018). *The Innovation Navigator: Transforming Your Organization in the Era of Digital Design and Collaborative Culture*.

The Entrepreneurial Process

- **Entrepreneurship**
- Managing attention and motivation to identify opportunities
- Collecting information to distinguish opportunities from a noise
- Opportunity is the new firm
- Managing payoffs for entrepreneurial actions characterized by shortages of 4Rs
- **OM**
- Examining various forms of uncertainty (e.g., new product development process)
- Operational decisions/ innovations to deal with uncertainty (e.g., flexible capacity, real options models, supplier selection)
- Resolving concurrent challenges within one or part of an existing firm

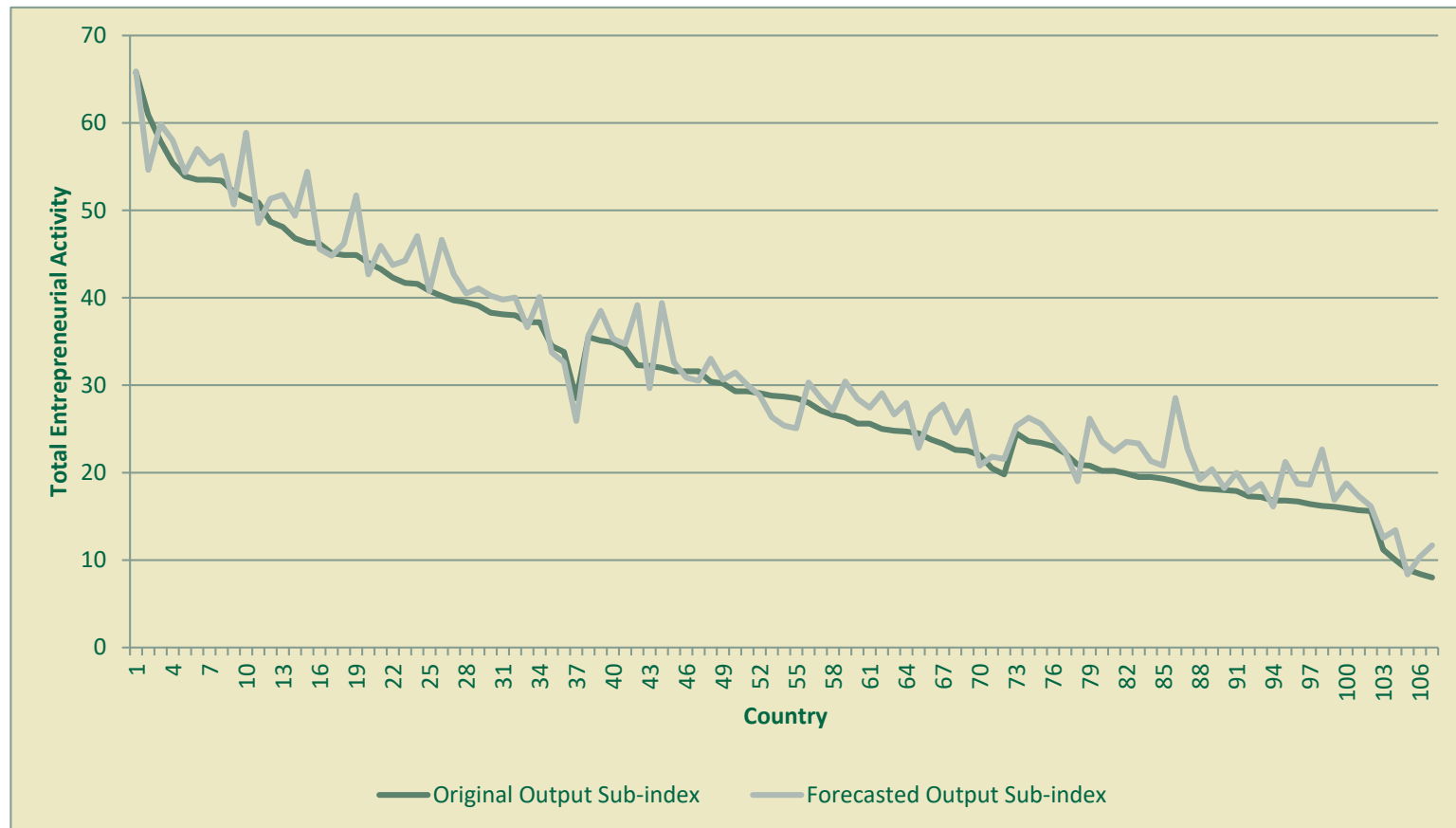


How **Data-Driven Entrepreneur** Analyzes Imperfect Information for Business Opportunity Evaluation



Canakoglu, Erzurumlu and Erzurumlu, 2018

The OKID/ARX joint model as the predictor of total entrepreneurial activity on country basis



Erzurumlu, Erzurumlu and Yoon, working paper

Data- and analytics-driven entrepreneur manages intangible resources to create the capabilities that inform the entrepreneurial process

1. Less Bounded Process
2. Shortages of 4Rs
3. Dynamic View of Capabilities
4. Data Availability and Usage
5. Adaptive Decision-making (potentially tracking emergent information in real-time)
6. Data Analytics Techniques (Statistics, Machine Learning, Data Mining, Optimization)

A few critical approaches from the OM world
may help the entrepreneurial process

- Statistical inference
- Divide and conquer
- Incremental learning using new cases
- Addressing uncertainty with learning
- System dynamics
- Feature selection
- Heuristics