An Integrative Framework for Understanding the Innovation Ecosystem

Ping Wang

UNIVERSITY OF MARYLAND

Innovation Brings Us Hope!

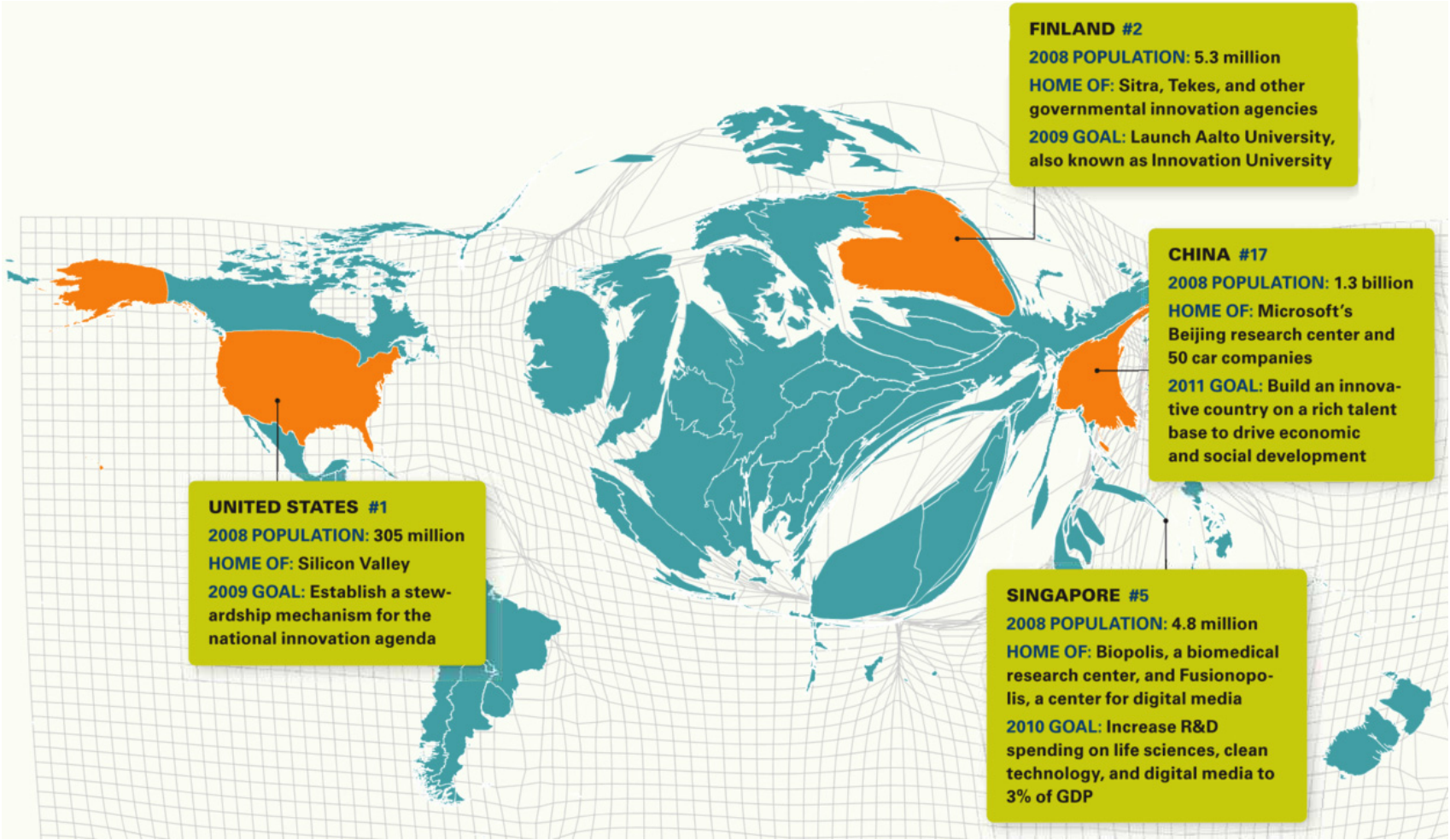
“This really is an innovative approach, but I’m afraid we can’t consider it. It’s never been done before.”

Cartoon by Aaron Bacall

Innovation and Key Questions

- An innovation is an idea, practice, or object that is perceived as new by an individual or other unit of development and adoption.
- Is investment in innovation sufficient?
- Does more investment always lead to more innovations?
- When does investment lead to innovation?
- What kind of innovation helps boost economy?

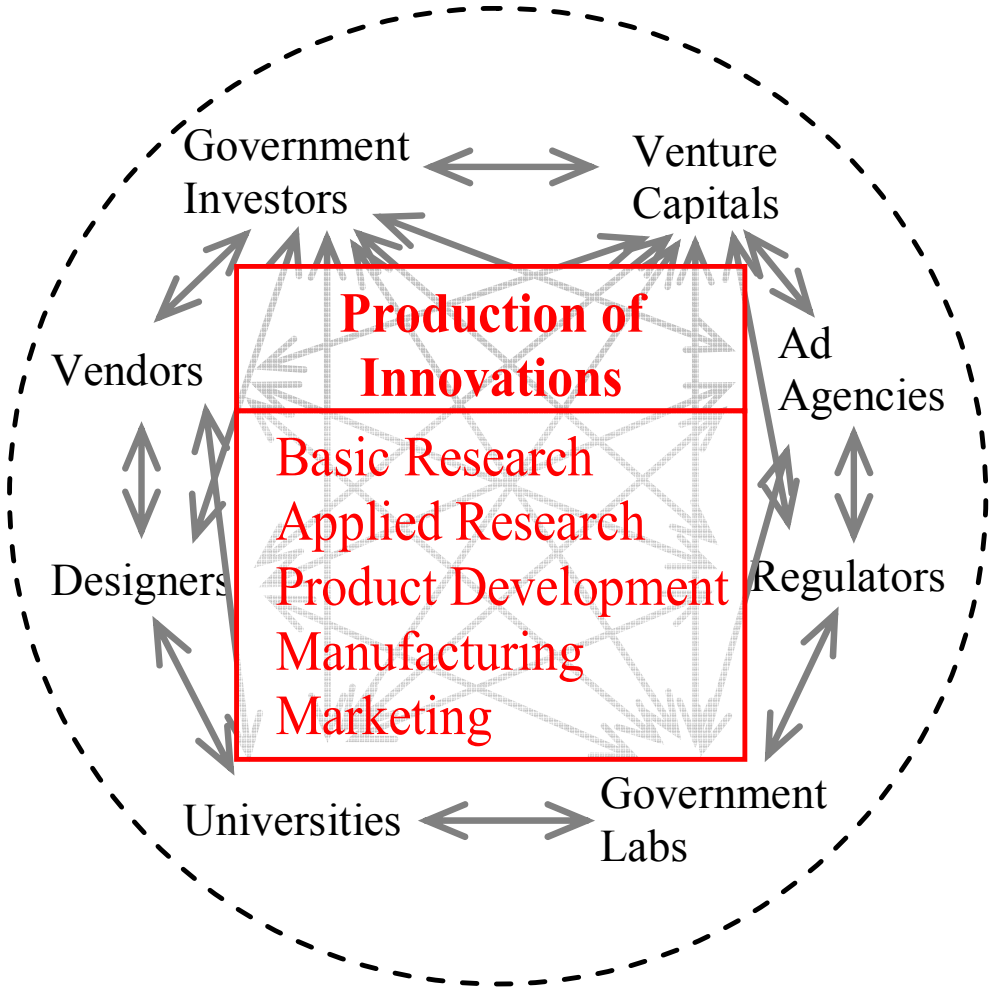
Innovation World



SciSIP and Its Challenges

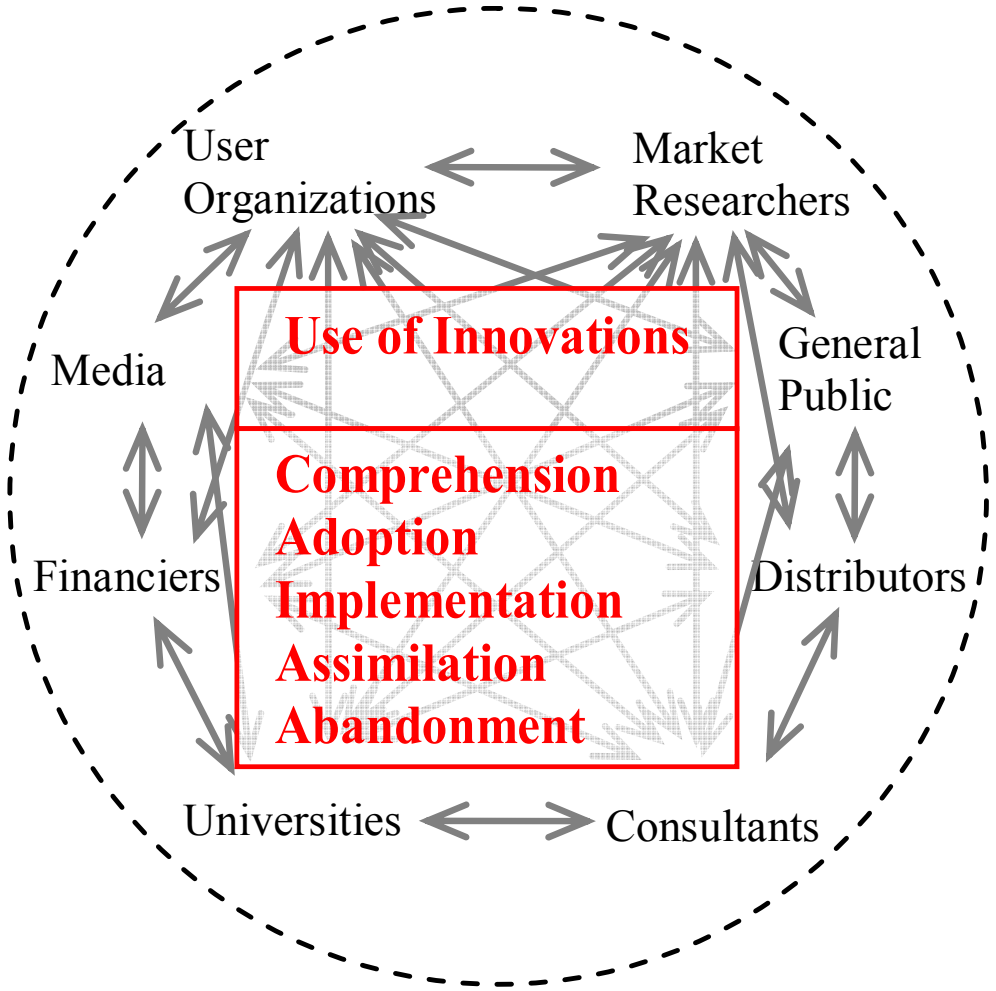
- Science of Science and Innovation Policy: Scientific inquiry on how innovation, in all its forms, contributes to economic growth and social well-being.
- Theoretical challenge: Separate treatments of innovation production and use
- Methodological challenge: Lack of tools to collect and analyze longitudinal, large-scale data

Production of Innovations



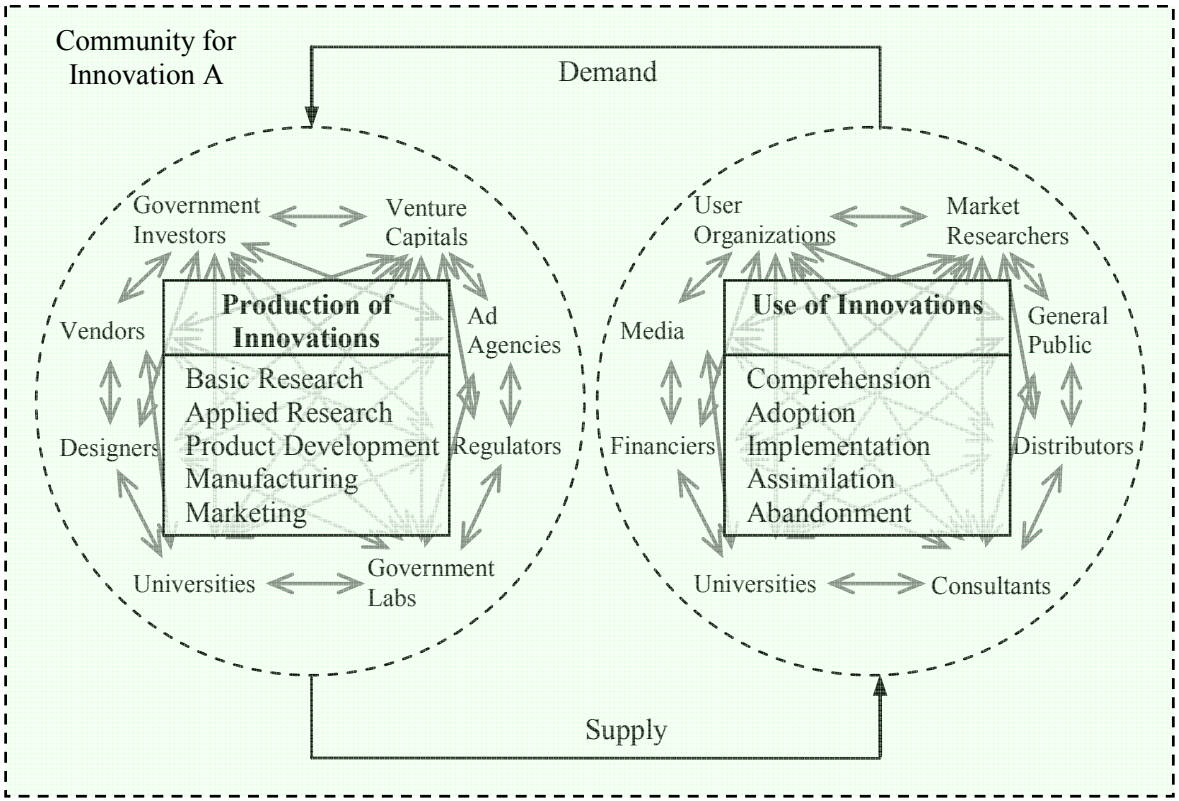
Hage & Hollingsworth 2000

Use of Innovations

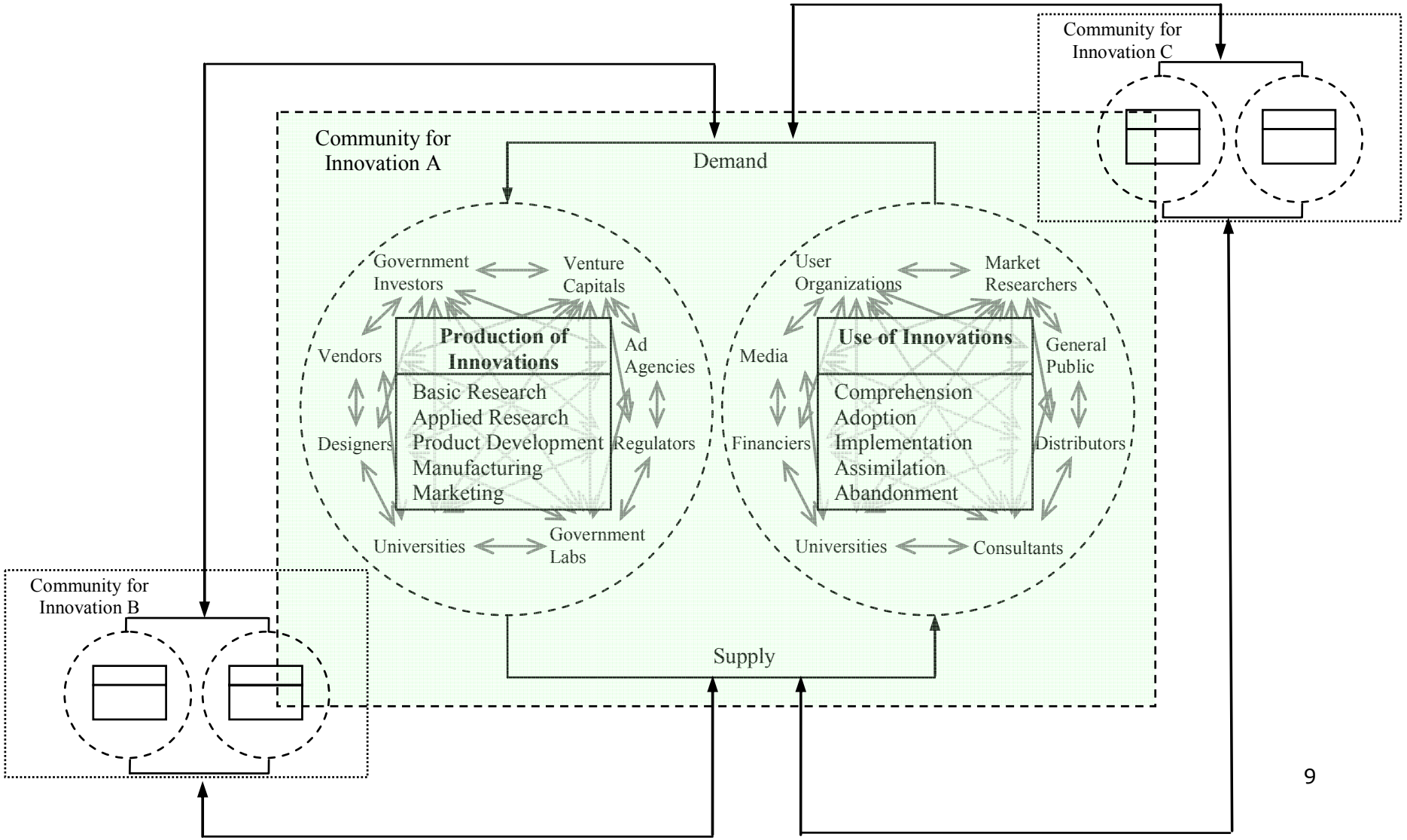


Swanson & Ramiller 2004

Innovation Community

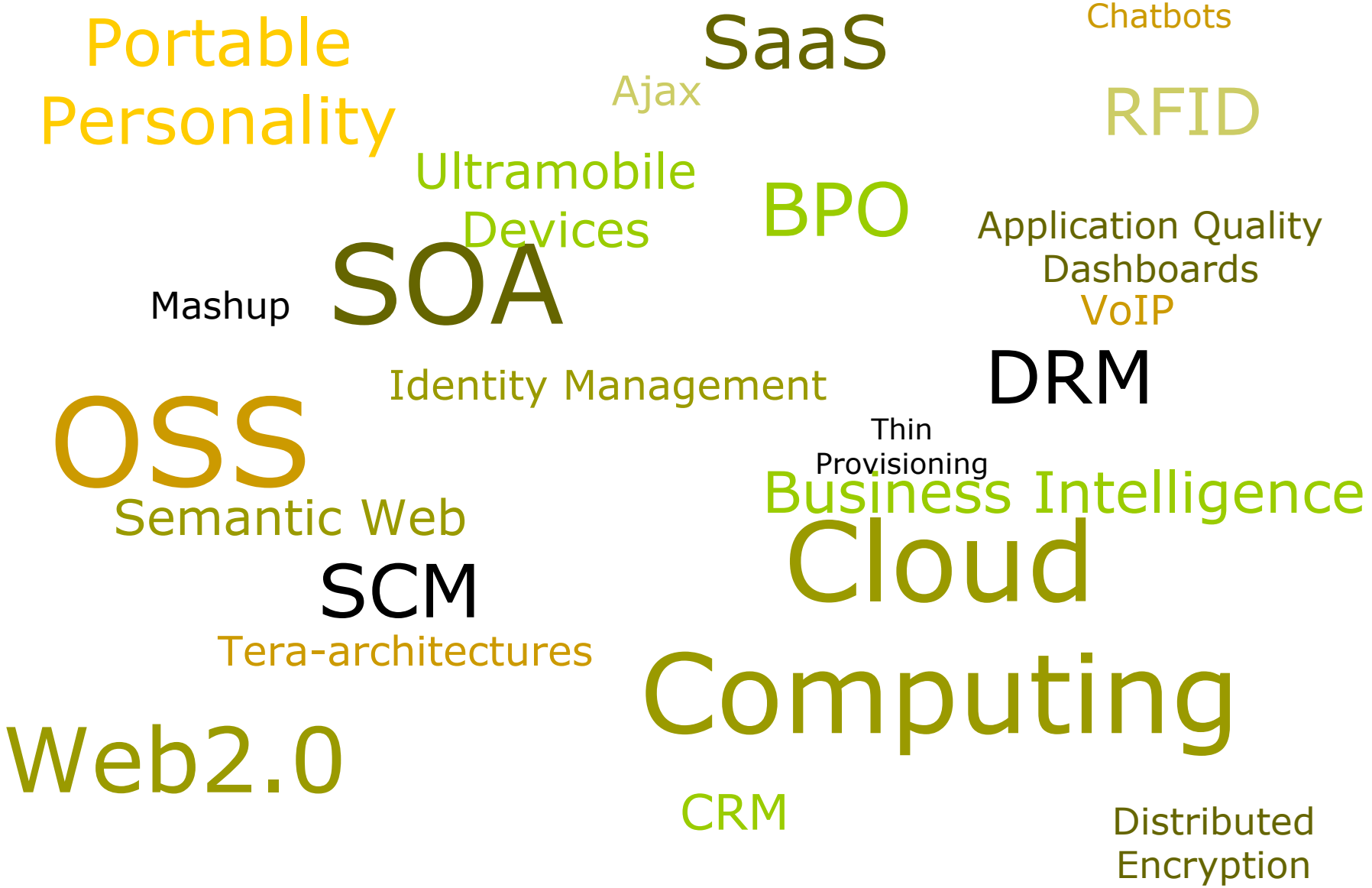


Innovation Ecosystem



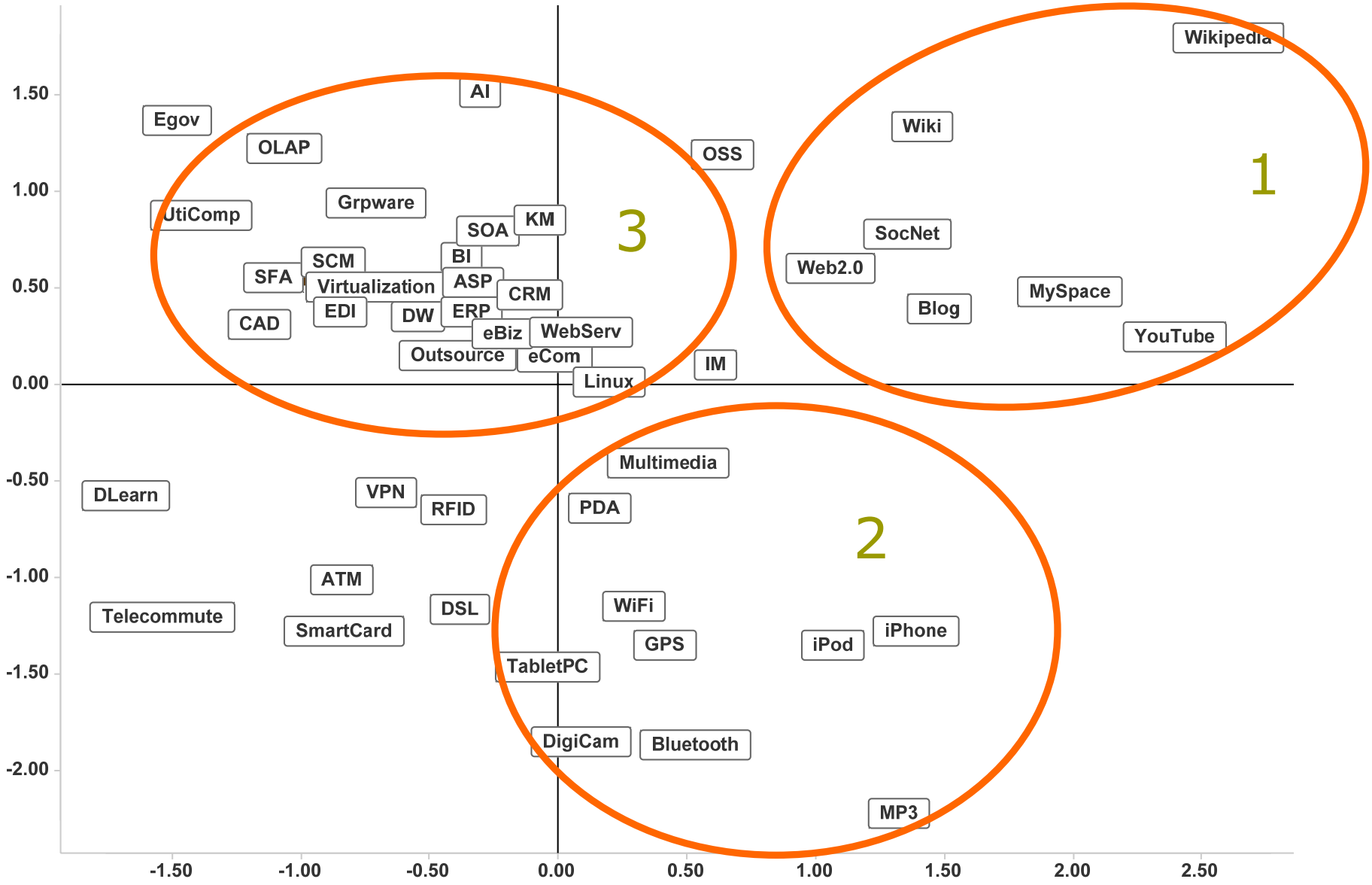
Methodological Guidelines

- Study discourse of diverse actors and activities.
- Collect discourse data from multiple sources.
- Study multiple innovations and communities.
- Study both success and failure.
- Take advantage of computational analysis.
- Computational and human analysis inform each other.

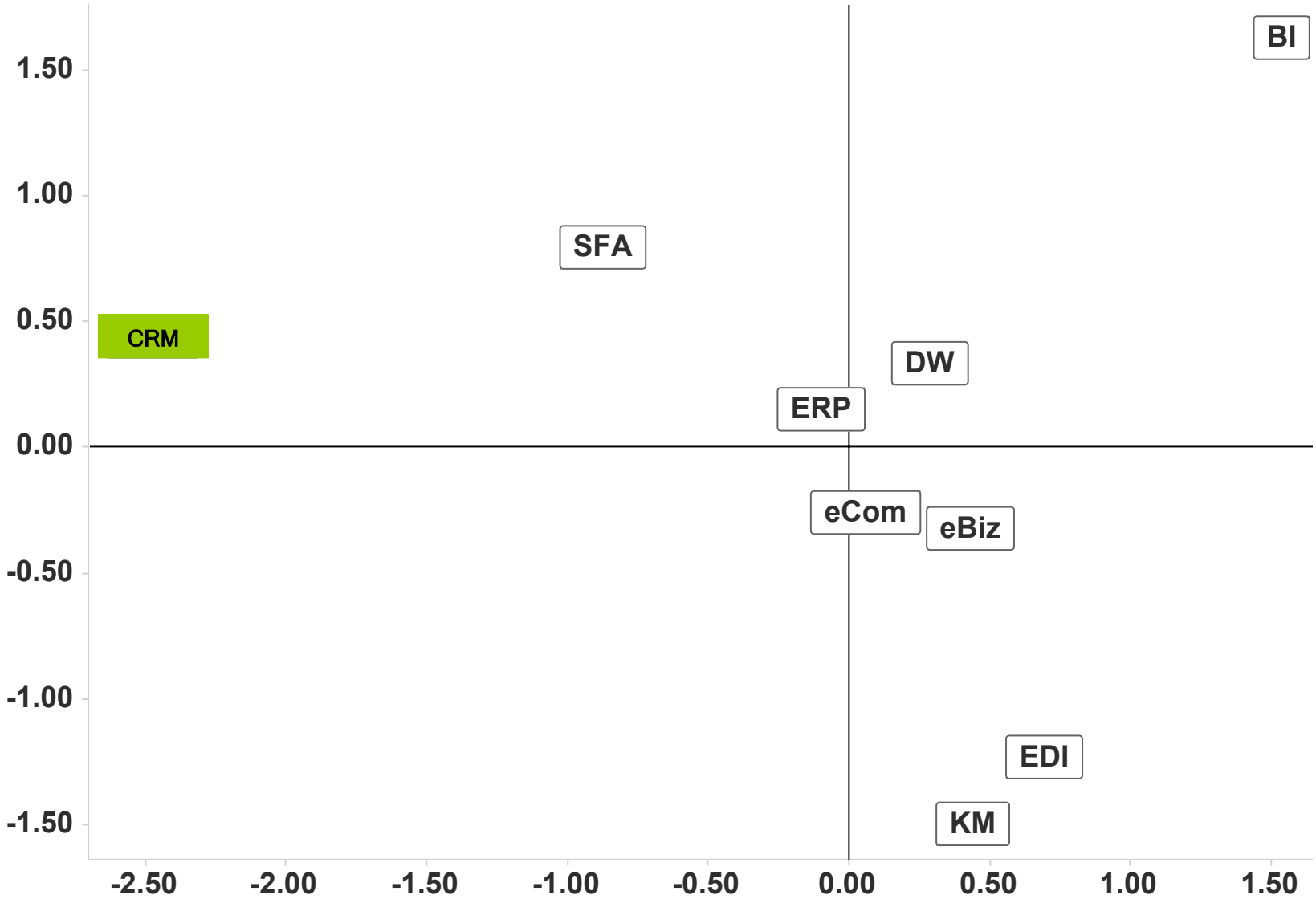


IT for Innovation vs. IT as Innovation

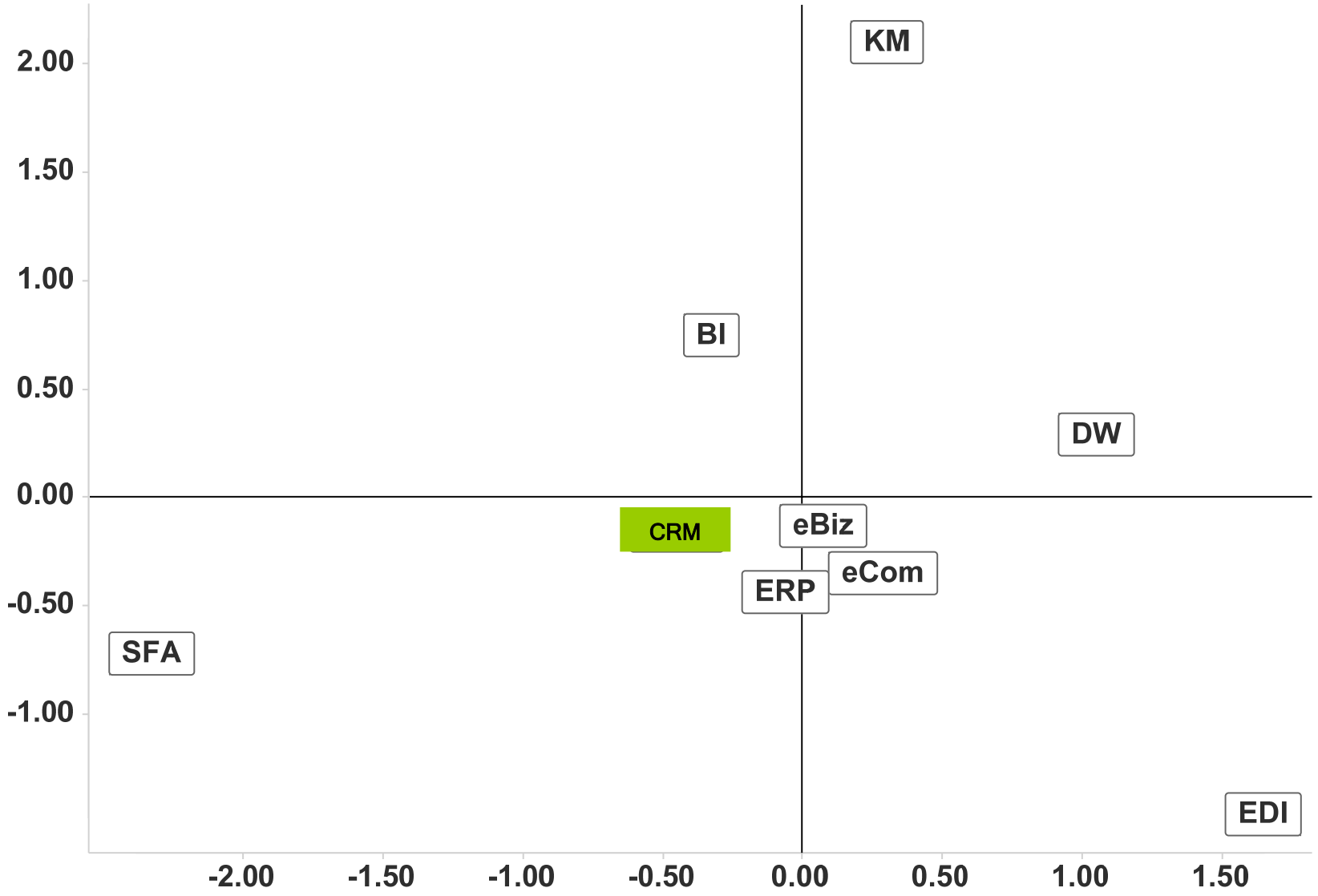
48 IT Innovations in Trade Press



Organizational IT Innovations 1998



Organizational IT Innovations 2001



Takeaways

- Research shifts from paradigm-driven orientation to problem-driven orientation
- Large-scale problems (like innovation) need large-scale solutions.
- Interdisciplinary collaboration is key
  - Economists work with sociologists
  - Computer/information scientists work with social scientists

Acknowledgement and Contact

- This work is supported by the National Science Foundation under Grant IIS-0729459.

- Ping Wang pwang@umd.edu

College of Information Studies

University of Maryland

4105 Hornbake Bldg, South Wing

College Park, MD 20742-4325

UNIVERSITY OF MARYLAND