Digital Capability
Investigating Coevolution of IT and Business Strategies

Johan Sandberg

Akademisk avhandling

som med vederbörligt tillstånd av Rektor vid Umeå universitet för avläggande av filosofie doktorsexamen framläggs till offentligt försvar i MA 121, MIT-huset, torsdagen den 5:e juni månad, kl. 10:00. Avhandlingen kommer att försvaras på engelska.

Fakultetsopponent: Professor Ola Henfridsson,
Department of Information Systems & Management, Warwick Business School, The University of Warwick
Abstract
This dissertation investigates the role of information technology (IT) in organizational strategy. Specifically, it examines how organizations can persist in turbulent competitive landscapes characterized by IT innovations. Underlying premises for this dissertation are that: (1) ubiquitous IT implies constant disruptions from digital innovation, (2) IT and practice are becoming fused, and (3) organizational strategies are dynamically linked with practice, i.e. they are reciprocally related through what organizations do rather than have. To investigate such IT strategizing processes, I outline a conceptual framework for analyzing how organizations can generate digital capability, i.e. a collection of routines for strategizing by leveraging digital assets to create differential value. Digital assets here refer to the complement of available resources and competencies for IT design and implementation. Based on the notion of dynamic capability and evolutionary theory, this framework emphasizes the importance of sensing, seizing and transforming abilities for generating digital capability.

As organizational practices are becoming fused with IT scholars have argued that attempting to disentangle them analytically is futile. In a similar vein, organizational strategy is increasingly reliant on available IT resources for both formulation and execution. In the IS field it is widely acknowledged that IT has both enabling and inhibiting consequences for organizations. Drawing on the resource-based view of the firm and theory on organizational capabilities, the notion of IT capability has been widely used as a conceptual tool for analyzing these dual strategic effects of IT. Considering the explosive advances in computing, network and interaction that have resulted in IT being ubiquitous and deeply embedded in contemporary practices, recent research argues for the need to move beyond the functional view of technology implicit in the IT capability notion. A key aspect to address for such broadening of the perspective is the coevolution of IT and business practices, i.e. who (or what) leads, who or what follows, and whether such a causal distinction is meaningful.

Grounded in the outlined conceptual framework, this dissertation examines how organizations can build digital capability to both enable large variation and complexity of feasible competitive actions, and reduce inhibiting effects of IT. The empirical investigation is situated in three distinct domains: boundary spanning IT innovation, transformation of existing IT resources, and hybridization of technology through digitalization of production equipment. These investigations are presented in five research papers.

The dissertation contribute to knowledge of IT strategy by: (1) explicating the construct of digital capability, (2) providing a framework for coevolutionary strategizing processes, (3) presenting an empirical illustration of the coevolution of IT and business strategies, and (4) offer specific insights on design and orchestration of processes for digital capability generation.

Keywords
Digital capability, IT strategy, coevolution, IT innovation, digital innovation, organizational evolution, practice research, strategy-as-practice, evolutionary theory

Language | ISBN | ISSN | Number of pages
--- | --- | --- | ---
English | 978-91-7601-065-5 | 1401-4572, RR-14.01 | 108 + 5 papers