

Chapter 6

Complex Information Technology–Intensive Firms: A New Paradigmatic Firm–Theoretical Imperative! (Or a Pragmatically Impractical Interpretation of the Nature of the Virtualized Firm?)

Jonatan Jelen

Parsons The New School for Design, USA

Marko Kolakovic

Ekonomski Fakultet Zagreb, Croatia

ABSTRACT

In its late 20th century incarnation, information technology has affected our economic structures not only more intensely but all around differently than in its previous heydays when it brought us language or print. The objective of the present research is to identify if and to what extent IT has transformed society's very crown jewel of productivity, the firm. IT has impacted every parameter and variable of the firm's character, its strategy, structure, scale, scope, and social position in such fundamental ways that we may be in the presence of a truly new nature of the firm. The resulting complex information technology-intensive firms are much altered from the original nature of the firm as it was envisaged by Ronald Coase and his fellow New Institutionalists. Through empirical research the authors are trying to identify and model some elements of a new framework of why and how firms are intended, designed, and created.

INTRODUCTORY FRAMEWORK

Many of the new phenomena of the information and information technology-centric new economy and network society are presenting formidable interpre-

tive and conceptual challenges for the information systems (IS) discipline. This is driving novel constructs and frameworks for its more prominent productive elements, i.e. firms.

We focus one such specific phenomenon: The impact of information technology IT on the design

DOI: 10.4018/978-1-60566-856-7.ch006

elements of firms, which is giving rise to complex information technology-intensive (CITI) firms.

The objective of this research is to identify if and to what extent the current wave of IT has affected the *design elements* used to conceive and construct firms. We have discovered that IT in its most recent forms is transformational in nature and is no longer limited to transactional effects. We show how this transformative effect manifests itself in a particular segment of the new economy, associated with social networking, community, and wiki models. This segment is exemplified by the emergence of such well-known firms as Google, YouTube, Face Book, Craig's List, Amazon, and eBay, and such little known firms such as jamspire.com (a website in New York connecting artists and the art world for varied projects) and HJenglish.com (a Shanghai-based website primarily dedicated to creating communities for Chinese foreign language learners).

Our contribution will be to show how profoundly the design elements of firms have been affected by the current version of IT and to propose elements of a framework that resiliently accommodates such effects. This framework can guide the practitioner designer for further refinements in the conception of CITI firms. The discoveries and framework elements are the result of our grounded theory methodology study in which executives, professionals, practitioners, entrepreneurs, and high-level decision-makers from a variety of firms participated.

A brief note on research methodology

Notwithstanding the theoretical character of this concept paper, the uncovered dimensions and framework elements are the result of a grounded theory methodology study in which sixteen executives, professionals, practitioners, entrepreneurs, and high-level decision-makers from a variety of firms in New York, Shanghai, China, and Zagreb, Croatia, were tape-interviewed over a eight-month period in 2007-2008.

We first take up the elements of the above stated research objective in turn.

1. The current impact of information technology

From an economic perspective, our new economy is sometimes labeled “information economy” or “knowledge economy”. This label is erroneous, as every economy was an information or knowledge economy (Foss, 2001). Information and knowledge were always important in the economic productive process. IT as a productive technology always coexisted with other technologies of productions, such as transformation, transportation, energy-generation, energy-distribution, coordination, collaboration, and transaction technologies. Over time, operating under different conditions and environments, these technologies took turns moving to the foreground. IT itself had played a lead role at several junctures – for example, as we entered the era of print culture, then electronic culture, and now as we move into the photonic age.

From an IS perspective, IT was originally considered important for its transactional contributions. We moved from automating to informing to strategically leveraging the knowledge of the firm to operate cheaper, faster, better. Firms *adopted* IT and *adapted to* IT in order to enhance their activities, their decision making, and their positions as economic actors. Firms controlled the absorption and integration of IT and the ensuing effects on the firms' functioning.

The dynamics of the underlying change in the IS discipline were pragmatically captured by the interactionist perspective and structuration theory (Orlikowsky, 1993), for example, kept fixed the parameters of the organizational paradigm.

However, we have uncovered additional truly transformational effects deserving of increased attention today. Unlike previous technologies that had to be practiced to manifest themselves, information and knowledge with their cognitive characteristics, simply exist, whether used in the productive process or not.

19 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/complex-information-technology-intensive-firms/37911

Related Content

Digital Twins for Smart Crop, Soil, and Resource Optimization in Modern Agriculture

Mrutyunjay Padhiary, Joytu Debnath, Priyanka Roy, Ahad Ahmed Laskerand Kundan Kumar (2026). *Digital Twin Applications and Cognitive Enterprise Transformation Across Industries* (pp. 249-286).

www.irma-international.org/chapter/digital-twins-for-smart-crop-soil-and-resource-optimization-in-modern-agriculture/410291

Global Emergency-Response System Using GIS

Salem Al-Marriand Muthu Ramachandran (2010). *Enterprise Information Systems and Implementing IT Infrastructures: Challenges and Issues* (pp. 159-166).

www.irma-international.org/chapter/global-emergency-response-system-using/42256

Efficient Alternatives in the Adoption of Software for Public Companies

Carmen de Pablos Herederoand David López Berzosa (2012). *Organizational Integration of Enterprise Systems and Resources: Advancements and Applications* (pp. 318-331).

www.irma-international.org/chapter/efficient-alternatives-adoption-software-public/66986

Satisfaction With ERP System Implementation: Effects of Fits Between User Interfaces, Task Interdependence, and User Knowledge

Boonlert Watjatrakuland Vimolluck Vatanapitukpong (2021). *International Journal of Enterprise Information Systems* (pp. 98-117).

www.irma-international.org/article/satisfaction-with-erp-system-implementation/289847

Critical Questions in Enterprise Architecture Research

Svyatoslav Kotusev (2017). *International Journal of Enterprise Information Systems* (pp. 50-62).

www.irma-international.org/article/critical-questions-in-enterprise-architecture-research/182433