

Socio-Technical Punctuated Equilibrium Model Enhanced with Social Network Theory: As the Descriptor of Changes in the Equilibria of CIO Work

Tomi Dahlberg, University of Turku, Turku School of Economics, Turku, Finland

Päivi Hokkanen, University of Turku, Turku School of Economics, Turku, Finland

Mike Newman, University of Turku, Turku School of Economics, Turku, Finland

ABSTRACT

We investigate the equilibria of CIO work. We apply the punctuated equilibrium paradigm based socio-technical model as our theoretical basis. We use this model to visually describe the impacts of business interruptions (=punctuations) on IT executives' perceived equilibria of work. We enhance the punctuated model with constructs taken from Granovetter's social network theory to better understand social mechanisms influencing IT executives' perceptions. We examined empirically perceptions about the equilibria of work and the role of IT in business in a media company during the years 2010-16. We collected data with the interview data collection method by conducting several interview rounds. Interview findings revealed that the equilibria of work were seen differently at three organizational levels. Also, the role of IT in business and the responsibilities of IT functions were seen in varied ways. The punctuated socio-technical equilibrium model together with the constructs of Granovetter's social network theory offered insightful theoretical explanations for our findings.

KEYWORDS

Chief Information Officer, CIO Work, Granovetter's Social Network Theory, Interviews, Leavitt's Model, Media Industry, Punctuated Equilibrium Paradigm, Socio-Technical Punctuated Equilibrium Model

INTRODUCTION

We interviewed the CIO of a telecom company for another study. He told us that the executives of the telecom company understood the roles and the boundaries of IT in business and the corporate IT function in different ways. According to him, what was generally understood as IT and managed by the corporate IT function, and what was understood as business technology and managed by the network business unit were technologically almost identical. Technologies were purchased from the same vendors, stood side by side in the data centres of the company and were operated with the same operating system (OS) management software. Yet, the procedures to make investment decisions were different. The corporate IT function was required to craft detailed business and investment plans, whereas the (typically larger) investments of the network business unit were usually accepted with a lighter procedure as business necessities. A possible reason was that some executives regarded the corporate IT as a support function ("necessary evil") since they understood IT narrowly, that is, as the internal (clerical) technology needed to run administration, office work and business support. In

DOI: 10.4018/IJITBAG.2017010101

their minds, the IT function is needed to manage this technology and has to be controlled to avoid overspending. At the other extreme were executives, who thought that the IT function should be a business unit (“enable, develop and deliver strategic advantages”). They understood IT broadly as the combination of IT and business technologies. Due to the dissimilarity of executives’ IT and business technology perceptions also expectations regarding the CIO’s work varied. The CIO explained that it took several years for (the majority of) executives to grasp that the company could achieve cost savings, operational synergies, increased revenues and other benefits by managing both “IT” and “business technology” as the deployment of IT/technology in business, and that IT/technology and the IT function may appear in several business-related roles depending on the use context.

The interviewed CIO’s story led us to ask; do similar different perceptions appear in other organizations, and, if so, how could these perceptions and their changes be described? This is our research problem. Prior research has, indeed, reported during several decades (e.g. McFarlan, McKenney & Pyburn, 1983; Agarwal & Sambamurthy, 2002; Kaarst-Brown, 2005; Guillemette & Paré, 2012) that divergences in values, beliefs, education and experience (Granovetter, 2005) produce variations in IT perceptions. Considerations discussed above induced the following two questions. How are differences in perceptions regarding the role of IT in business and the responsibilities of the corporate IT function within one organization related to the work of IT executives and to their perceptions about the CIO work? What social mechanisms contribute to (dis)agreeing within one organization on the work of IT executives?

The purpose of the present study is to examine these questions with a longitudinal case study conducted within a media company during the turbulent years of 2010-2016. During this period our case company executed eight merger and acquisition (M&A) transactions and established new business areas by combining M&A transactions with greenfield operations. We investigated how significant business strategy induced interruptions changed the work of three IT executives and how perceptions about the role of IT in business and the responsibilities of the corporate IT function are related to those changes. The three IT executives represent the three hierarchical organizational levels of IT management within the case company. They also represent three different social groups. We interviewed the CIO to understand how her work had changed after major business interruptions and during the more stable in-between periods. Besides the CIO, also involved in our study are the CFO as the boss of the CIO, and the IT manager reporting to the CIO. For an interruption, we understand it to be “an occasion when something stops something happening for a short period” (Cambridge Dictionary, 2017). An example would be the inability to continue work “as is” after an M&A transaction. Changes to work and a process to execute changes are needed to re-establish stability.

In the paradigm we follow, interruptions are called punctuations (Gersick, 1991). We apply the punctuated equilibrium paradigm in the socio-technical context of CIO work (Lyytinen & Newman, 2008; Dahlberg, Hokkanen & Newman, 2016). The socio-technical punctuated equilibrium model is an episodic change model, where relatively long periods of stability are interrupted by relatively short periods of revolutionary changes (Lyytinen & Newman, 2008). The idea of the model is that there is an aspiration to reach equilibrium between the factors that constitute one’s work. Punctuation interrupts an existing equilibrium and begins a process of change to find a new equilibrium. Our objective is to demonstrate that the socio-technical punctuated equilibrium model with its graphical notation (Lyytinen & Newman, 2008) provides a useful perspective for viewing changes in the work of IT executives after punctuations (see also Sabherwal, Hirschheim & Goles, 2001). Our other objective is to enhance the socio-technical punctuated equilibrium model with Granovetter’s social network theory constructs (Granovetter, 1973; 1983; 2005). Social network constructs are used to better understand and describe how social ties and other social mechanisms suggested by Granovetter’s social network theory influence detected changes in the equilibria of work following punctuations - including the influences of differences in perceptions about the role of IT in business and the responsibilities of the corporate IT function. In summary, our research questions are:

14 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/article/socio-technical-punctuated-equilibrium-model-enhanced-with-social-network-theory/180691

Related Content

Comprehensive Architecture Rationalization and Engineering

Tony C. Shanand Winnie W. Hua (2009). *Information Technology Governance and Service Management: Frameworks and Adaptations* (pp. 125-144).

www.irma-international.org/chapter/comprehensive-architecture-rationalization-engineering/23687

Strategic IT Resources and Sourcing Strategy

Eng K. Chewand Petter Gottschalk (2009). *Information Technology Strategy and Management: Best Practices* (pp. 256-314).

www.irma-international.org/chapter/strategic-resources-sourcing-strategy/23746

ITIL and Value Networks

Laurence Lock Lee (2009). *IT Governance in a Networked World: Multi-Sourcing Strategies and Social Capital for Corporate Computing* (pp. 210-237).

www.irma-international.org/chapter/itil-value-networks/24751

The Impact of the COVID-19 Pandemic on Stock Markets: Evidence From a VAR Model

Rui Diasand João Manuel Pereira (2020). *International Journal of Entrepreneurship and Governance in Cognitive Cities* (pp. 57-70).

www.irma-international.org/article/the-impact-of-the-covid-19-pandemic-on-stock-markets/270272

Practical Approach for Implementation of Governance Process in IT: Information Technology Areas

Altino José Mentzingen de Moraes, Edilson Ferneda, Ivanir Costaand Mauro de Mesquita Spinola (2011). *Enterprise IT Governance, Business Value and Performance Measurement* (pp. 19-40).

www.irma-international.org/chapter/practical-approach-implementation-governance-process/47453