

## Chapter 55

# Innovation in the Age of Digital Disruption: The Case of Siemens

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### ABSTRACT

*Digital disruption is a worldwide phenomenon whereby digital technology brings new business models that disrupt existing markets. Business models have become key to digital disruption, as the universal language of innovation from invention. The latest business models shift from pipeline material flow to knowledge creation in platforms. Open innovation is part of platform business models. Business models are now financed directly, which has created the lean start-up movement. Start-ups enter markets with no barriers and force incumbents to race them with the ability to compete based on business models and match start-up agility and creativity. One of the world's top innovators, Siemens, a company where innovation is strategy, uses the latest tools for innovation: open innovation for technology invention, business models to turn invention into innovation, and finances business models. A large company, Siemens has created an inner structure that intends to bring the advantages of the lean start-up movement indoors.*

### INTRODUCTION

This book project intends to address the wide and complex relationships that constitute strategic innovation management principles and processes, where learning comes from previous facts or strategic actions in the market, paying focused attention to information and knowledge management in these arena. On this ground, we find an exploratory descriptive case study of innovation procedures and processes at Siemens an opportune classic research topic. Siemens is every year on Boston Consulting Group's list of the most innovative companies in the world. As such, Siemens is an example for innovation practices that include innovation processes, "the how", and their role in the achievement of the corporate strategic

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intended competitive advantage, differentiation via leading technological innovation in digitalization, "the what". At Siemens, innovation is a strategic priority, defining "the what" as the primary objective. "The how" to innovate is defined by a corporate procedure, open innovation, that includes a strong focus on start-ups and evidence of what may be lean start-up principles. The goal of this research is to explore and depict innovation practices at Siemens, and to compare them to a theoretical framework. The ground for this study is the importance of Siemens as an innovator among world companies, the opportunity to research the procedure that applies for all businesses in terms of innovation and the opportunity that this innovation is related to digitalization. This research relies on a wider research and a large body of evidence about Siemens from annual reports, Siemens magazines Pictures of the Future, the Magazine, other press releases, the Siemens Web site, presentations sought by key word in numerous searches and other secondary sources from Siemens. It explores, selects, classifies innovation processes at Siemens. As a world class innovator, Siemens is a classic example of a company to which innovation is both intended competitive advantage and a broad scope of processes to ideate, approve, fund and implement the products, solutions, services and expertise for which competitive advantage is sought. This chapter focuses on the how of innovation in the practice of Siemens and is an exploratory descriptive case study. It finds that Siemens has rich procedures for innovation and that they are worth exploring. The chapter elaborates on cooperation with start-ups. The chapter parts from the theoretical basics, in order to explore and depict innovation processes reported by Siemens. It highlights the first stage of innovation lifecycle at Siemens: ideation, with a snapshot towards the following stages: approval, funding, implementation, diffusion. The chapter attributes these procedures to the Siemens Corporate Technology Department, in charge of core technology for all Siemens businesses, where the latest and most important core technology is digitalization. It explores the how of innovating in terms of digitalization, where this innovation is intended by Siemens as competitive advantage (core competency based) on all businesses. Based on data analysis, the chapter finds Siemens treats innovation as an individualized process based on best practices, but not recipe. By comparing theory to practice, at Siemens, we find this company uses theory to create practices that are intended as the source of market leadership.

## **INNOVATION IN THE DIGITAL DISRUPTION AGE**

Studies (IBM Institute for Business Value analysis, pp. 6) show that the Knowledge Economy is transforming the Industrial Economy in several stages: in the 1990s, the emergence of the Knowledge Economy; in the 2000s, digital distribution and web strategy; since 2010, transformative business models. Studies (Capgemini, 2016a, 2016e, 2016f, 2016g; The Global Center for Digital Business Transformation, 2015; Westerman, Bonnet & McAfee, 2011, 2014) show that digital technology (Garner, 2017; IDC, 2007) and innovations about everything (World Economic Forum, 2016) are disrupting all industries (Grossman, 2016; The Global Center for Digital Business Transformation, 2015) with new business models (Blank, 2013; Bonchek & Choudary, 2013; Girotra & Netessine, 2014; Van Alstyne, Parker, & Choudary, 2016; Westerman, Bonnet, & McAfee, 2011) that threaten incumbents' business models.

Business models become a key tool for innovation (Kavadias, Ladas, & Loch, 2016), competition (Casadesus-Masanell & Ricart, 2011; Grossman, 2016; Ovans, 2015;) and financing (Blank, 2013, 2016; Girotra & Netessine, 2014; Grossman, 2016), which change the global landscape. According to the IBM Institute for Business Value Analysis, digitalization brings radical innovation, digital reinvention (IBM Institute for Business Value Analysis, 2016, pp. 6), new business models and new ways to

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