

The Missing Link: Why Does ICT Matter for Innovation?

Exploring the Effect of Information and Communication Technologies on Innovation-Based Competitiveness

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In May 2003, in his paper “IT Doesn’t Matter,” Nicholas G. Carr argued that as information and communication technologies (ICT) become ubiquitous among firms, they no longer matter as strategic differentiators.¹ His point was that improvements in the management of information can be copied, resulting in little or no gain in competitive advantage.

In this chapter, we argue that ICT does matter. Furthermore, we argue that IT does matter for innovation, which is undeniably the source of today’s and tomorrow’s competitive advantage.

The relationship between ICT and productivity was elusive for a long time.² In the same way, the relationship between ICT and innovation might not seem direct. ICT is changing the speed and economics of innovation by (1) decreasing the costs of experimentation and prototyping; (2) increasing the rate of failure and speeding the discovery of sub-optimal alternatives by speeding design-test cycles; (3) allowing better acquisition, management, and analysis of information; and (4) empowering customers to become innovators and firms to benefit from the innovations created by their customer base.

In this paper we explore the effects of these changes among nations by studying, first, the relationship between the Networked Readiness Index (NRI) and a slightly modified version of the innovation subpillar of the Global Competitiveness Index featured in the World Economic Forum’s *Global Competitiveness Report* series;³ and, second, the relationship among relevant variables of ICT use on innovation.

The chapter starts with a brief explanation of firms’ competencies for innovation, and a look at how information technologies can help to enhance the innovativeness of companies. Then we make the connection with how and why, at an aggregated level, nations with the highest NRI ranks are those characterized by innovation-based economic growth. This helps to explain the high correlation between the Global Competitiveness Index and the NRI.⁴

The chapter concludes that ICT does indeed matter. . . a lot. The more intense and sophisticated the use of ICT by a nation’s people and firms, the higher the likelihood that ICT will enhance the effectiveness of innovation processes. Innovation processes are methods that, when followed, help companies to innovate in a predictable and consistent way. As a consequence, innovation results more from firms’ abilities rather than from lucky strikes. The more innovative the firms will be, the more likely that a nation’s competitiveness will be based on innovation.

The relevance of the innovation process

How can the intensive and sophisticated use of ICT by firms contribute to building competitiveness based on innovation for a nation? Answering this question requires some understanding about innovation processes, some