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Assessing the impact of innovation strategies and R&D costs on the performance of IT companies

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Abstract

Innovative activity of companies differs due to their sphere. This paper will focus on companies operating in the IT (Information Technology) sphere, whose business success depends on innovations more than the success of companies in any other sector. Innovations for manufacturing hi-tech products, for example, computer equipment, demand more intense (narrower) focus on product innovations owing to the fact that the basis of viability and financial well-being of hi-tech companies is demand for their products. Therefore, innovations in such companies are mostly directed at creation of new products or modernization of the already existing ones. As a consequence, in order to define the activity of IT companies more precisely we should use specific classification of innovation strategies. The innovative behavior of IT-companies is one of the main sources of competitiveness, business survival and economic growth. It is therefore important to identify and understand the factors that determine innovation behavior among IT enterprises. Innovation behavior depends on innovation capacity and is realized in a particular innovation strategy. This paper attempts to show the mechanism of choosing the most appropriate innovation strategy and the most accurate project estimation. Using the data collected on IT companies, the correlation between innovation strategies and company's performance was found.

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1. Introduction

In the new global economy, innovations play a significant role in the development of new technologies, providing sustainable competitive advantages, and thereby, in the growth and efficiency of the economic system. Innovation fuels organizational growth, drives future success, serves as the engine that allows businesses to sustain their viability in a global economy (Gaynor, 2002). For companies pursuing excellence in this era of hyper competition, restructuring, lowering costs, and enhancing product or service quality are no longer sufficient. Many researches agreed that companies must be able to create and commercialize a stream of new products and processes that extend the technology frontier, while at the same time keeping a step ahead of their competitors. Consequently, every company needs this basic core – innovation – to apply more productive manufacturing processes, perform better in the market, seek positive reputation in customers' perception and, as a result, gain sustainable competitive advantage.

Commonly used classification of innovation companies' strategies include: "make", "buy" and a combination of both – "make-buy" strategies (Bayona-Sáez & García-Marco, 2010; Gunday, Ulusov, Kilic, Alpkan, 2011). However, this classification does not take account of the features of the IT sector, nor does it examine direction towards the product development. That is why we are going to use the most relevant classification. According to the Booz&Co's publications, companies can be categorized as Need Seekers, Market Readers and Technology Drivers, which differ in the ways of creating and launching new products. Following a particular strategy is determined by specific features of the particular product and defined market and has an influence on the company's financial results.

2. Literature Review And Hypotheses

2.1 Innovative activity of companies

Innovation evaluation has become a significant and critical concern for both practitioners and researchers, as well as for public authorities. Literature attests to propositions for measuring the innovation management of companies and identifying the conditions of a successful innovation process (Guan et al., 2006; Wang et al., 2008; Tseng et al., 2009).

Input evaluation

The R&D intensity is often used as an evaluation criterion for innovation process input. These R&D efforts represent not only the company's current input, but provide information about strategic activities that are a complete part of the innovation capabilities of a company. Evaluation of R&D costs allows objective measuring of the direct effect on innovation output, avoiding subjective perspectives. There is a large volume of published studies supporting the positive relationship between RDSs and a company's innovative performance. Cameron (2000) observed a positive impact of R&D on total factor productivity growth, but the effects varied significantly across industries. Kafourous (2005) also found positive and direct effects of R&D on the productivity growth though the effect was higher for large companies than for small companies. Although there is common agreement as to the positive effects of R&D activities on company innovativeness, the question of whether different RDSs have the same impact on company innovative performance awaits a conclusive answer. Also, R&D efforts remain difficult to correlate with R&D and innovative activity results.

However, all applied models are difficult to use because preconditions are necessary before application (accounting algorithms among others) and because of the influence of qualitative variables such as the organization mode.

Output evaluation

Literature attests of research in the field of innovation performance. Performance is associated with the nature description and the assessment of the outcomes of the innovation process. Patents are intermediary results of the new product development process and are consequently indicative of the invention's activity and research efforts. However, this innovation criterion gives a reduced evaluation of innovation because only the technological results are patented. Researchers, particularly in the economic field, are increasingly using patent citations as an indicator of the inventive performance of companies and also journal-based innovation counts (Jensen and Webster, 2004).

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