Cost-Benefit Analysis of Participation in Standardization: Developing a Calculation Tool

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ABSTRACT

Participation in standardization costs time and thus money and additionally there are out of pocket costs. Is it worth this investment? This paper seeks to develop and test a method to calculate cost and benefits of participation. Companies can use such a calculation to prepare a decision whether or not to join, during the process whether or not to continue, and afterwards to evaluate if the overall benefits outweigh the cost. Academic researchers can use the same method to analyze impacts of standardization projects.

KEYWORDS
Calculation Tool, Case Research, Cost-Benefit Analysis, IEC, Participation, Payback Period, RoI, Standardization

INTRODUCTION

Companies as well as standards bodies are interested in the financial benefits of participating in standardization. Many studies report a positive impact of standardization. Tables 1 and 2 provide an overview of such studies. Some examine the impact of individual standards, and others investigate the effects of collections of standards. The overview is incomplete, but we have included overview studies that refer to other literature. Many of the available studies address the macro or sector level rather than the company level, and focus on the impact of standards rather than on the impact of involvement in standards development.

The scarce company level studies on the impact of involvement of companies in standardization are qualitative, or provide a correlation between participation and impact without giving a quantitative mechanism for causality. This paper introduces a novel decision-making tool to assess the feasibility of participating in standardization. To our knowledge, no other studies provide a quantitative method for calculating the costs and benefits of participation in standardization.

Blind, De Vries, and Mangelsdorf (2011) examine the relationship between a firm’s approach to open innovation and the decision to participate in standardization alliances. Companies that are active in innovation-related cooperation are more likely to be involved in standardization activities. Involvement allows them to defend their interests, to share knowledge, to ensure that their ideas are incorporated in a standard (Mallard, 2000), to increase ‘corporate intelligence’ (Bousquet, Fomin, & Drillon, 2009), and to acquire knowledge and anticipate the market. Blind (2006) finds that firms

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with relatively low R&D investments (less than 4%) are inclined to participate in standardization activities because they are likely to benefit from the information that is acquired by participating, but that firms with relatively high R&D investments (more than 4%) are less inclined to participate because they are afraid of knowledge spillover. Blind and Mangelsdorf (2016) rank the motives of German manufacturing companies to be involved in standardization. Their findings show that the highest-ranked motive is to design industry-friendly regulation, and that the most important motives relate to influencing standards and to accessing knowledge from other involved stakeholders. Interviews by Riillo (2013) with participants in Luxembourg suggest that the motive of influencing standards is more important for large companies, whereas the motive of accessing knowledge is more applicable to smaller companies. Indeed, cooperation between customers, suppliers, competitors, and research institutions in standardization committees may help firms to obtain knowledge that can be used for the development of new products (Hagedoorn, 1993; Ritter & Gemünden, 2003).

These studies give arguments for participation, but do not give any quantitative evidence of the results of such participation. Blind (2007), Blind and Mangelsdorf (2016), Wakke, Blind, and De Vries (2015), and Wakke, Blind, and Ramel (2016) report a positive correlation between participation in standardization and company performance, e.g., on indicators for innovativeness. However, they do not provide evidence of the direction of causality in this correlation, nor do they offer a calculation method that may be used at company level. Studies by De Koning and De Vries (2009), De Vries (2006), and Schaa and De Vries (2004), provide company case descriptions that show such causality: a positive impact of participation, but these studies are qualitative instead of quantitative. In other words, the literature shows a gap: no quantitative approach for evaluating participation in standardization is available.

This paper aims to develop, present, and evaluate a decision tool to evaluate standardization projects financially. The tool can be used to evaluate the results of past projects as well as to determine
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