



Corporate-level technology strategy and its linkage with corporate strategy in multi-business companies: IKCO case study



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ABSTRACT

This article deals with technology strategy and its linkage with overall strategy at multi-business, diversified groups. In the last two decades, the alignment of technology and business strategy has been one of the important research fields in strategy and technology management literature. These researches has been concentrated on single companies through which different frameworks, models, and decision support tools have been developed and widely utilized by industries. Although multi-business and diversified groups play an important role in national economy of developing countries and need a comprehensive and overall plan for the management of their diversified technological capabilities, there is little research focused on corporate-level technology strategy (CTS). This paper introduces a preliminary framework based on literature review, with a deductive approach and content analysis method which tends to more reflect the context of developed countries. Its applicability in a late-comer context has been investigated in practice through a case study in Iran Khodro Company (IKCO)—the largest car manufacturer in the Middle East and a multi-business diversified group in Iran. Based on the proposed framework and through reviewing the related documents and interviewing IKCO senior and middle managers; and using thematic analysis method, we describe and explain how technology strategy is linked to corporate strategy at IKCO. This investigation reflected some mismatches with our initial framework which can be interpreted in a pleasing manner due to IKCO's latecomer context and its position in catch-up path. Process and results of this illustrating study showed that our conceptual framework makes sense as a tool for analyzing CTS in a multibusiness corporation (MBC). Resulted amendments such as highlighting the importance of integration make our modified framework a good basis for further researches.

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1. Introduction

Diversification is a major path of firms' growth (Christensen, 2002). Business groups accounted for 45, 40, and 20 of the 50 biggest companies (excluding state-owned enterprises) in India, South Korea, and China, respectively (Ramachandran et al., 2013). More than 60% of Indian multibusiness groups generated better returns during 1997 to 2011 than a comparable portfolio of standalone companies did (Ramachandran et al., 2013). After reaching a saturation point in their initial business due to technological as well as market limitations, they can aspire for more growth through realizing opportunities in different local markets and businesses using their previously earned capabilities (Amsden and Hikino, 1994; Kock and Guillen, 2001; Damodaran, 2009). Competitive advantage of a multi-business diversified company usually is latent in some relationships between different business units (BUs). Prahalad and Hamel (1990) advocate that diversified

corporations should not be seen just as a portfolio of discrete businesses but as a collection of competitively important competencies that could be used in different products and markets. Technology may be considered as one of the most important of these competences (Vannoni, 2003). Thus, diversification is not related just to the business portfolio of large corporations but also to their usual multitechnology characteristic (Torrissi and Granstrand, 2004). Although multi-business groups need a comprehensive and overall plan for management of their technological capabilities, there is little research focused on corporate-level technology strategy (Edler et al., 2002; Arasti et al., 2010).

The linkage and alignment of technology and overall strategies at BU level is relatively rich in strategy and technology management literatures and scholars have introduced different frameworks, models, and decision tools for this purpose considering positioning or resource-based approaches (Vernet and Arasti, 1999; Chiesa, 2001; Christensen, 2002; Pieterse and Pretorius, 2005). Such a linkage at the corporate level is a prerequisite for achieving growth goals (Bellotti, 1994; Hax and Majluf, 1996; Ryan, 1996; Berry and Taggart, 1998; Zahra et al., 1999; Christensen, 2002; Hipkin, 2004; Lenz, 2004; Larsson, 2005).

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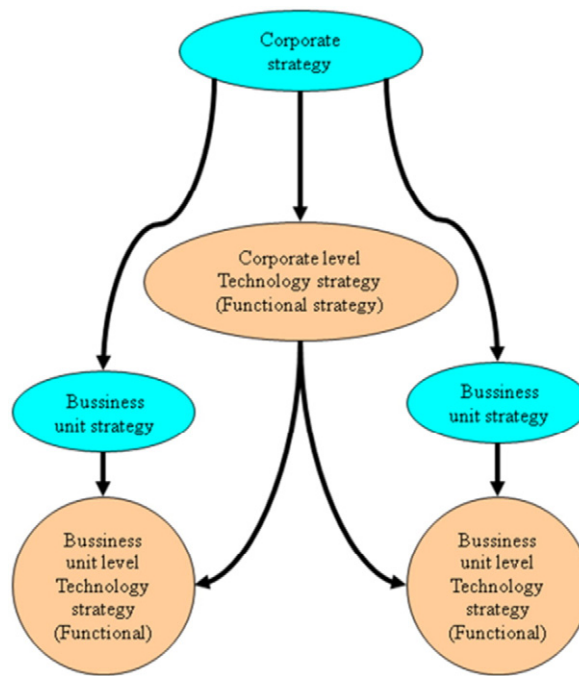


Fig. 1. Technology strategy position in hierarchy of corporation strategies.

However, few researches have investigated the relationship between diversification of businesses and technologies (Patel and Pavitt, 1997; Granstrand et al., 1997).

The aim of this paper is to present a framework which steers the linkage of CTS and corporate strategy (CS) at multi-business companies. For this purpose, a vast and comprehensive literature survey is accomplished, which led to a conceptual framework. In order to illustrate the applicability of this proposed framework, the case of Iran Khodro Industrial Group – an Iranian multibusiness corporation – is investigated.

In the next section, the conceptual framework is presented. Research method is discussed in Section 3. Based on the proposed conceptual framework, results of a confirmatory in-depth case study of IKCO – the largest car manufacturer in the Middle East and a multi-business diversified group in Iran – has been reported in Section 4. The final section is dedicated to discuss the modified version of conceptual framework and some concluding remarks.

2. CTS and its Linkage with CS

Based on a comprehensive literature review, we have already published the result of a research regarding the concept and the main elements of CTS and its linkage with the firm's overall strategy (Arasti et al., 2010). A theoretical framework that shows the paths of this linkage has been also developed and presented. In this section, we re-discuss the framework with some minor modifications.

2.1. Corporate-level technology strategy

Almost all research argues for the position of technology strategy in a firm's hierarchy of strategies as a functional strategy at BU level. Based on our best knowledge, there is no framework or model which has explicitly recognized technology strategy at the corporate level.¹ Even though many of scholars have confirmed the concept of CTS explicitly (Christensen, 1998; MacAvoy, 2001; Grienitz and Ley, 2007;

¹ For this purpose, we have reviewed the literature of related fields through credible indexing sites like as Elsevier, Emerald, Google Scholar, Scopus, and Science Direct using different keywords such as corporate level, technology strategy, and corporate technology strategy.

Burgelman et al., 2009) or implicitly (Mitchell, 1986; Hax and Majluf, 1996; Betz, 2011; Filippov, 2011; Lahovnik and Breznik, 2014), they have mentioned the following reasons to show importance and necessity of technology strategy at the corporate level:

- Technological core competencies play a major role in competitive advantage of multibusiness group (Mitchell, 1986; Christensen, 1998; Hobday and Rush, 2007; Betz, 2011). Corporation growth leads to dispersal of their technological capabilities all over the group; thus, it is necessary to manage cooperation at the corporate level to avoid parallel efforts and improving synergies (Coombs and Richards, 1993; Argyles, 1995; Christensen, 1998; Bruche, 2000; MacAvoy, 2001).
- Managing technological collaboration and integration (vertical and horizontal) is usually realized better at the corporate level than BU (Christensen, 1998; Roberts, 1999).
- Groups should support those single BUs that lack essential competencies or financial resources to acquire needed technological capabilities (Christensen, 1998; MacAvoy, 2001).
- The parent company should consider acquisition of long-term technological needs of its current businesses (Coombs and Richards, 1993; Christensen, 1998; Roberts, 1999; MacAvoy, 2001; Birkinshaw and Fey, 2003; Larsson, 2005; Betz, 2011; Filippov, 2011; Helland, 2012; Diam et al., 2013; Du et al., 2013).
- The parent company should have technological intelligence (Suominen, 2011) and should plan and proceed with acquisition of required technologies for its future diversification (MacAvoy, 2001; Christensen, 2002; Betz, 2011; Du et al., 2013).
- The parent company should plan and proceed with acquisition and employment of supporting or shared service technologies which are not the responsibility of any BUs (Argyles, 1995; MacAvoy, 2001; Cuenca et al., 2011).

Considering the aforementioned notes, we can envisage the relationship of technology strategy and firm's overall strategy as shown in Fig. 1.

Technology strategy, like any other strategy, consists of content, process, and context dimensions (Pettigrew, 1987; De Wit and Meyer, 2005; Meyer, 2007). Regarding the content, the main elements of CTS

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