Study on the impact of technological innovation capabilities on competitive advantage and firm performance in the automotive industry in Malaysia: a conceptual framework

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Abstract: This paper focuses on applying the resource-based view (RBV) of firms to explain performance in the automotive industry in Malaysia. Specifically, we based our research on the comprehensive framework of RBV and reviewed previous empirical researchers to investigate the relationship between technological innovation capabilities (TIC), competitive advantage and firm performance in the automotive industry in Malaysia. The conceptual model using Partial Least Squares (PLS) has been proposed. Based on the proposed conceptual framework and reviewed, research hypotheses are being developed. The conceptual framework of this paper will be used at the preliminary stage of the research on TIC that can be expected to contribute in the development of automotive industry in Malaysia.

Key words: Technological innovation capabilities; Competitive advantage; Firm performance; Resource-based view; Automotive industry

1. Introduction

To sustain in the encountering rapidly changing environments, technological change and globalization, firms require recurring technological innovation to continuously retain their competitiveness and firms to face new challenges (Cheng & Lin, 2012; Shan & Jolly, 2012). The globalization of business activity together with the increasingly rapid development and diffusion of technology progressively led to a destruction of traditional sources of competitive advantage (CA) which requiring firms to obviously understand the varying nature of competitiveness (Nguyen, 2010). One popular approach used to understand competitive dynamics is the resource-based view (RBV) of the firm. According to this view, only those resources that are valuable, rare, hard to imitate, cannot be substituted and a firm also needed to be organized in such a manner that it could develop the full ability of those resources if it was to obtain a sustainable competitive advantage (SCA), leading to better performance of the firm (Barney & Hesterly, 2012; Barney, 1991).

Resource-based view helped to understand how firms employ their tangible and intangible resources to compete in the market (Barney & Hesterly, 2012). Resources in RBV are defined as the tangible assets such as plants, distribution centers, machineries, equipment, patents, information systems and etc. or intangible assets such as a well-known brand and teamwork among its manager, its reputation among its customers that are owned and controlled by firms (Amit & Schoemaker, 1993; Barney, 1991).

In today’s dynamic environment with its rapid and erratic changes, tangible assets have become easily reachable, imitable, and interchangeable. It is essential for a firm to improve its competitiveness and to manage with external resources. As such, competitive pressures, the need to continually adapt, develop and innovate has become important for firms to have superior performance (Karagouni & Papadopoulos, 2007; Richard et al., 2004). According to Yam, Guan, Pun, & Tang (2004) in a dynamic environment, an inability to innovate eventually causes businesses to deteriorate and firms to go out of business. In accordance, scholars have emphasized that while facing rapidly changing environments, the firms need recurrent technological innovation to continually maintain their competitiveness (Cheng et al., 2012). Many studies also have shown that technological innovation could create positive impacts and improving the competitiveness of (Guan et al., 2006; Karagouni & Papadopoulos, 2007; Lahovnik & Breznik, 2013; Lang et al., 2012; Liang et al., 2010; Richard et al., 2011, 2010; Richard et al., 2004).

In other words, technological innovation is recognized as a driving force for achieving and sustaining a competitive advantage and helping firms to develop strategic capabilities to deal with the enhanced dynamism and uncertainty of the business environment (Burgelman et al., 2009). Technological innovation is considered the result of the innovation process. The innovation process may involve the combination of existing technology and inventions to make a new or improved product, process, or system (Diaconu, 2011). Incremental or