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The Effect of Environmental Capabilities on Environmental Strategy and Environmental Performance of Korean Exporters for Green Supply Chain Management *

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ABSTRACT

The objective of this research is to verify the relationships between environmental capabilities, environmental strategy and environmental performance. To achieve the objective, this research collects and analyzes 219 data responded by the members of the Korea International Trade Association. Reliability and validity of the data are tested by an exploratory factor analysis and a confirmatory factor analysis. The relationships between the variables are tested by an analysis of structural equation modeling. The results are as follows. First, environmental capabilities of Korean exporters have a positive effect on environmental strategy. Capabilities of the firms as an internal resource are based on performing strategy. Firms which have superior environmental capabilities can be possible to make an effort on cooperative environmental improvement among departments and this is based on environmental collaboration with customers and suppliers. Second, external environmental strategy of Korean exporters has a positive effect on environmental performance. Environmental collaboration with customers and suppliers is based on attaining superior environmental performance. Third, environmental capabilities of Korean exporters have a positive effect on environmental performance. Environmental capabilities as a strategic resource of the firms are based on achieving a high level of environmental performance, and the firms can attain a sustainable competitive advantage in the market. Therefore, environmental capabilities of Korean exporters have a direct effect of environmental strategy and environmental performance.

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1. Introduction

The research on environment is approached to various viewpoints. There are two viewpoints concerned with environment: one is general

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environment of firms (Shrivastava, 1991; Shrivastava and Hart, 1992; Stead and Stead, 1992) and the other is competitive environment (Aragon-Correa and Sharma, 2003; Clinton, 1997; McGinnis and Kohn, 1993). The research concerned with environment of firms overlooked natural environment and as a result, the activities of firms are based on serious pollution of natural environment (Brown et al., 1994; Chan, 2005; Klassen and Whybark, 1999; Meadows et al., 1992; Moon, 2007). From the viewpoint, the research concerned with environmental management enhances competitiveness of firms and is based on achieving a sustainable competitive advantage. Therefore, the research concerned with environmental management is needed to perform from the viewpoint of sustainability.

Prior research performed from the viewpoint of regulation on environment which firms face (Dean and Brown, 1995) but it can be explained as a strategic viewpoint (Hart, 1995). Firms would change a threat of environment into an opportunity from the strategic viewpoint on the basis of enhancing internal capabilities. From the viewpoint of green supply chain management, firms change regulatory viewpoints of environment into strategic viewpoints and share environmental capabilities as an internal resource with supply chain participants, followed by sustainable competitive advantages (Reed and DeFillippi, 1990; Teece, 1987; Bae and Lee, 2014). They share the internal capabilities concerned with environment with supply chain participants and as a result, firms enjoy sustainable competitive advantages in the market.

From the strategic viewpoint, green supply chain management can provide firms with the basis of achieving sustainable competitive advantages in the market through making internal capabilities, sustainable development and entry barriers. Firms can internally make capabilities on green supply chain management through environmental capabilities and externally achieve competitive advantages through environmental collaboration with supply chain participants. As a result, they can improve environmental performance and firm performance. These capabilities of green supply chain management can be possible to do sustain green development and they can make entry barriers in the market. Therefore, firms can enjoy a monopolistic position in the market through green supply chain management (Hart, 1995).

Prior research verified the positive effect of logistical integration (Vachon and Klassen, 2006), buyer green supply chain practices and supplier green supply chain readiness (Lee, 2008), integration for green supply chain management (Wong et al., 2015), competitive market environment (Hong et al., 2009), customer environmental sensitivity (Menguc et al., 2010) and general and specific organizational capabilities (Chan, 2005) on an environmental strategy. In addition, prior research identified that integrated product development and supply chain coordination (Hong et al., 2009), environmental initiative (Rao, 2002), cooperation with customers and eco-design (Shukla et al., 2009), adoption of environmental strategies (Chan, 2005), environmental monitoring (Green et al., 2012), internal and external environmental management (Giovanni, 2012), social capital (Lee, 2015) and environmental product policy (Lee, 2012) have a positive influence on environmental performance. Moreover, Moneva and Ortas (2010) found the positive effect of environmental performance on financial performance. The results of prior research explain that internal environmental capabilities are disseminated to suppliers and customers, followed by superior performance. The research on environmental strategy can be explained by a natural resource-based view. Firms which have superior environmental capabilities can internally perform an environmental strategy among

departments and externally implement an environmental strategy connected with suppliers and customers from the viewpoint of green supply chain management. The environmental capabilities are the cause of causal ambiguity and social complexity in the relationship with performance. A tacit resource is focused on human resources or based on technology (Hart, 1995; Russo and Fouts, 1997). The resource is developed by staff who acquires experience and learns technology through performance of rotated work (Barney, 1991).

Despite the above results, there are limitations of prior research. First, prior research did not clearly explain environmental capabilities. Resources which firms have can be approached to various viewpoints. However, prior research did not classify the characteristics of resources to grasp the essence and did not analyze the effect of them on an environmental strategy. Therefore, this research has need of analyzing environmental capabilities and verifying the effect of them on an environmental strategy from the viewpoint of resources.

Second, prior research approached an environmental strategy as the internal viewpoint of firms. However, an environmental strategy is classified into internal viewpoints and external viewpoints of firms from the viewpoint of green supply chain management. In particular, there is no research concerned with an environmental strategy to include suppliers and customers which have an influence on environmental performance. In this regard, this research has need of classifying an environmental strategy into internal and external and need to prove whether they have an influence on environmental performance. Therefore, there are three objectives of this research: one is to verify the effect of environmental capabilities on an environmental strategy, another is to investigate whether an environmental strategy has a positive effect on environmental performance, and the third is to identify the direct relationship between environmental capabilities and environmental performance.

2. Literature Review

Resources consist of equipment, finance, technology, patents and brands as capital goods inputted in production processes (Grant, 1991). To understand the characteristics of resources, there are two viewpoints: one is a separation viewpoint and the other is an integrated viewpoint on the relationship between resources and organizational capabilities. On the one hand, on the basis of a natural resource-based view, the boundary of resources and capabilities is not defined in prior research (Anderson and Kheam, 1998). For instance, Barney (1991) insisted that resources are strategic equipment to improve efficiency and effectiveness and it is regarded as assets and capabilities operated by firms. Ghoshal and Bartlett (1990) treated resources with marketing and management capabilities to contribute to a strategy of firms.

On the other hand, Grant (1991) divided resources into internal resources and organizational capabilities on the basis of the direct effect of them on making a strategy. Internal resources of firms are capital goods inputted to production processes such as equipment, financial resources, technology, patents, brand and so on. In addition, organizational capabilities mean organizational abilities to perform activities and works in firms. In other words, the capabilities are a set of resources to perform common works and this means the functions of resources. This means that resources represent an effective combination of complex human and physical resources to achieve firm performance and it is connected with whole firms' capabilities to conduct their duty. In this regard, resources are regarded as a precedent factor of organizational capabilities and are

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