

## Chapter 6

# Platform Strategy for New Product Development: The Mediating Effect of Product Platform Strategy in the Korean High Technology Industry

**Sang-Wuk Ku**

*Pai Chai University, South Korea*

### ABSTRACT

*This chapter proves the mediating effect of product platform strategies on the relationship between a firm's subject, environment, and resources and the performance of new product development in the perspective of platform leadership. The author analyzed the mediating role of product platform strategy by considering CEO propensity, competition and customers, and competitiveness of retained resources. Compared to the past, in the perspective of platform leadership, the product platform strategy has a critical effect on the relationship between the business scope of a platform leader, the external relationship with complementors, and the internal organization of a platform leader impact on the performance of new product development. As a result of hierarchical regression analysis with the data of Korean high technology companies, the product platform strategy would be mediating the relationship between the antecedents such as CEO propensity, competition and customers, and competitiveness of retained resources and NPD performance.*

### INTRODUCTION

Who has the highest company value in the high technology industry? What are the strategically competitive advantages for industry leaders? Are they own specific platforms? How do their platform effect on their new product development?

Nowadays, there are exploding number of new technology and products and increasing customer demands in many industries. Especially, current industry situation tells us the platform strategy as one of

DOI: 10.4018/978-1-7998-1125-1.ch006

the key determinants of success for today's high-technology companies. Many platform leaders such as Apple, Google, Samsung, etc. focus on the new product development as a growth strategy. For this, high technology companies should use product platform strategy for competitiveness, profitability, and growth.

Couple of decades ago, information technology as an industry platform has started to be discussed by Cusumano and several researchers. In the perspective of platform, Cusumano and Gawer (2002) proposed scope of the firm, external relationships with the complementors, internal organization, and platform technology as the determinants of platform leadership. This industry platform provides the concept of complementarity that the marginal profit of an activity is impacted by other activities, assets and activities. Complementors participate in the market cooperatively and are the subjects producing complements (Turnbull & Djoundourian 2003; Kubartz, Lu & Roeder, 2001; Tiwana 2008) such as customers, suppliers, and alliance partners (Cusumano & Gawer 2002).

This article investigates whether (1) CEO propensity, (2) competition and customers, and (3) competitiveness of retained resources leads to the improved product development performance. Especially, in the perspective of platform leadership, I intend to prove the mediating role of product platform strategy for the relationship between the above antecedents and NPD performance of the high technology companies. Even though new product development has been studied for a long time, very few studies on new product development related to product platform has been studied as a new paradigm on new product development in the high technology industry.

## **BACKGROUND**

### **Product Platform**

Product platforms can be defined as something concrete and abstract (Ku, 2010a; Robertson & Ulrich, 1998) in diverse sectors including geography, military, industry, business, technology, and so on (Ku, 2011). Additionally, many people have been focusing on the definitions of platforms by explaining product itself (McGrath, 1995; Meyer & Utterback, 1993), whereas nowadays other people are trying to develop the platform concept regarding a firm's value chain (Sawhney, 1998).

The dictionary meaning of platform is the physical surface to support objects and secure stability and view. More specifically, it can be expressed as physical platform, social platform, platform in geology, product platform, and computing platform. First, physical platform can be expressed as railway platform, jumping platform, and shoes with thick plate. Also, social platform includes political platform as policy principle and military competences. Next is geological platform. Platform cover is the collection of sediment on the upper part of craton which is the stable area after the earth's crust. Continental platform is the sea area with low water level on the side of a continent.

Product platform has been studied in existing researches on business administration. The dictionary meanings of product platform are oil platform as a structure for oil production and automotive platform as a set of components and a technology infrastructure which technologies and processes are embodied. Computing platform is an on/off-line structure for functioning applications. This chapter is to study product platform and computing platform as research targets.

Except the above platform types, the platform regarding core of assets has been studied in many researches. Asset platform is divided and defined as process platform, customer platform, brand platform, and global platform (Sanderson & Uzumeri, 1995). Process platform refers to the specific set-up

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