Pure Dynamic Capabilities to Accomplish Economies of Growth

Hiroki KIKUCHI\textsuperscript{a)} and Shumpei IWAO\textsuperscript{b)}

Abstract: Since the development of the idea of dynamic capabilities by Teece, Pisano, and Shuen (1997), it has been broadly discussed. However, there is no general view regarding the types of competencies that can be called dynamic capabilities. Teece et al. (1997) asserted that dynamic capabilities are one of the roles of organizational processes. Moreover, they asserted that organizational processes include static concepts, such as integration and coordination. This fact caused some confusion. Helfat and Winter (2011) contrasted the two concepts of operational and dynamic capabilities. They noted that the source of confusion was the fact that some competencies possess the nature of both concepts. In other words, three types of capabilities exist: pure operational, pure dynamic, and hybrid capabilities possessing both features. Helfat and Winter (2011) presented the example of corporate growth, such as an expansion in retail stores, an area where pure dynamic capabilities without any operational capabilities can be observed. Therefore, if pure dynamic
capabilities are the pure competencies necessary for corporate growth, it is highly likely that these are the same competencies posited by Penrose (1959), who differentiated between economies of growth and economies of size. Takahashi (2015) conjectured that competencies that become resources unused for anything but growth are, more specifically, “competencies for start-up experts.”

Keywords: dynamic capabilities, economies of growth, start-up

Introduction

A quarter of a century has passed since the publication of a working paper by Teece, Pisano, and Shuen (1997) on the theory of dynamic capabilities, which led to a string of subsequent research. However, their argument was extremely confusing, with no information on the essence of dynamic capabilities. In these circumstances, discussion of this topic based on the study by Helfat and Winter (2011) regenerates one idea regarding the nature of dynamic capabilities. We first review the concept of dynamic capabilities as presented in the study by Teece et al. (1997), the pioneering work. We note the source of confusion. Furthermore, we summarize the concept of corporate capability based on the study by Helfat and Winter (2011). Further, we highlight the meaning of dynamic capabilities from the examples given therein, suggesting the possibility that dynamic capabilities are similar to the competencies of “start-up experts” that Takahashi (2015) discovered from Penrose (1959).

---

1 Teece, Pisano, and Shuen (1990) and Teece and Pisano (1994) laid the foundation for Teece et al. (1997).
2 See Fukuzawa (2015) and Iwao (2015) for more information on the theory of dynamic capabilities.
Origin of Dynamic Capabilities Theory

According to Thomson Scientific Essential Science Indicators, the study by Teece et al. (1997) was most frequently cited in economics and management papers between 1995 and 2005 (Fukuzawa, 2013). This indicates that their study is therefore extremely influential and can be considered to be the foundation for the development of dynamic capabilities theory. Teece et al. (1997) defined dynamic capabilities as follows.

*Dynamic capabilities:* We define dynamic capabilities as the firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. Dynamic capabilities thus reflect an organization’s ability to achieve new and innovative forms of competitive advantage, given path dependencies and market positions (Teece et al., 1997, p. 516).

However, subsequent studies have shown no unified interpretation regarding dynamic capabilities. This is due to the vague explanation provided by Teece et al. (1997). Using the above definition of dynamic capabilities, they explained that dynamic capabilities comprise three elements: organizational and managerial processes, positions, and paths. Organizational and managerial processes (shortened hereinafter to “processes”) refer to firms’ internal routines that indicate the manner in which things are processed and denote current customs and learning patterns. The term “positions” refers to particular assets held at the current point in time, such as technologies, intellectual property, complementary assets, a customer base, and external relationships with partners and suppliers. The term “paths” refers to strategic alternatives adopted by a firm as well as any increasing returns and attendant path dependencies. Processes comprise both positions and paths (Teece et al., 1997, p. 518).
Moreover, “the essence of a firm’s competence and dynamic capabilities is...resident in the firm’s organizational processes” (Teece et al., 1997, p. 524). These processes have three roles: (a) coordination and integration, (b) learning, and (c) reconfiguration and transformation. Coordination and integration are described as static concepts, learning is a dynamic concept, and reconfiguration and transformation are transformational concepts (Teece et al., 1997, p. 518). Thus, the source of confusion in dynamic capabilities theory is the inclusion of static concepts, such as coordination and integration.

Furthermore, with regard to (a) coordination and integration, Teece et al. (1997) cite the studies by Clark and Fujimoto (1991) and Womack, Jones, and Roos (1991) when giving examples of routines for coordination, lean production systems, and relationships with strategic alliances and suppliers. With regard to (b) learning, they describe it as a process whereby tasks can be done better and faster through repetition and testing. With regard to (c), reconfiguration and transformation, however, they provide no examples and, without providing any specifics, only say that these are “competencies of reconfiguration and accomplish...internal and external transformation through constant surveillance of and alignment with market changes” (Kawai, 2004).

**Helfat and Winter’s (2011) Criticism**

In contrast, the studies by Zollo and Winter (2002) and Winter (2003), which are subsequent major works on dynamic capabilities theory, differentiate between capabilities for normal operations and the dynamic capabilities that change these operations. Although Helfat and Winter (2011) also clearly differentiate between
operational and dynamic capabilities, they take this a step further and assert that it is impossible to draw a clear line separating operational capabilities from dynamic capabilities. This is because some capabilities vary constantly between being operational and being dynamic and those having both operational and dynamic goals. Examples of this include market capabilities that involve distribution, marketing, and sales and those that enable integration and promote communication and coordination beyond a given organization or department. A market capability involves both operational and dynamic goals for providing both existing and new products to customers. Capabilities that enable communication and coordination can have operational goals to yield economies of scope in manufacturing and production. Therefore, we can say that they also have dynamic goals for product development.

In other words, dynamic and operational capabilities should not be considered to be mutually exclusive, and some competencies may not fit exactly in either one category or the other, as illustrated in Figure 1. Indeed, not all capabilities possess both operational and dynamic aspects. As illustrated in Figure 1, three categories exist: pure operational capabilities, pure dynamic capabilities, and hybrid capabilities that are a combination of the two. Unlike the studies by Zollo and Winter (2002) and Winter (2003), which set dynamic capabilities in opposition to normal capabilities, the study by Helfat and Winter (2011) enables us to focus on pure dynamic capabilities by clearly indicating the existence of hybrids of operational and dynamic capabilities.

What did Helfat and Winter (2011) perceive as a pure dynamic capability? They clearly used some cases as the stereotypical

---

Simultaneously, they call these “ordinary capabilities.” Helfat and Winter (2011) describe these as “operational (or ordinary)” and use “operational” more frequently, so we use the term “operational capabilities” in this paper.
examples of dynamic capabilities. These include product
development in the case of Intel, competencies for expanding stores
in the case of Walmart, and competencies for acquiring new oil fields
in the case of the oil industry (Helfat and Winter, 2011,
p. 1249). Although these capabilities support existing businesses or
non-dramatic changes, the examples in which they are given contain
many dynamic characteristics. Based on this, we find that Helfat and
Winter (2011) did not feel that responding to dramatic changes in the
environment or creating a short-term dramatic change in a company
were important. Instead, they focused on critical economic
changes. The aforementioned cases of Intel, Walmart, and the oil
industry are actual examples of competencies for enlarging the scale
of a firm as well as for generating corporate growth.

**Economies of Growth**

Thus, when dynamic capabilities are understood as “competencies
that create corporate growth (and at the same time exert an economic
impact),” most of these competencies will coincide with the managerial services that Penrose (1959) discussed in her book, *The Theory of the Growth of the Firm*. The study by Penrose (1959) is a classic economics text; according to Google Scholar, it had been cited more than 20,000 times as of February 2016. This book uses the concept of “economies of size” and “economies of growth” to answer the question regarding firms’ growth. Thus, she focused on unused resources that create “economies of growth” to explain the reason for corporate growth (Takahashi, 2002, 2015). Here, the concept of “economies of size” is primarily the same in conventional usage, with the average cost decreasing with an expansion in scale. Penrose (1959) categorized this “economies of size” into two aspects: expansion and operations. In the former case, as expansion proceeds, a firm acquires the ability to produce at a lower average cost only because of the larger scale. In the latter case, a lower additional production cost and a lower average marketing cost can be achieved after expansion is completed. In contrast, economies of growth enable firms to expand in a certain direction; if they grow in that specific direction, they can accomplish competitive advantages.

Penrose (1959) also mentioned the relation between these two economies of size and growth. According to her, for both expansion and operations, economies of size always generate economies of growth. This is because production services and knowledge increase during normal operations and this generates unused portions, which in turn generate economies of growth. However, economies of growth are not always economies of size. Penrose (1959) stated that they are so in a certain case and are not so in another case. Considering that economies of growth are not always economies of size as mentioned above, Takahashi (2015) measured economies of growth independent of economies of size.

Using the real-world example of organizations that specialize in corporate start-ups, Takahashi (2015) considered “resources that are
unused in normal operations, and used only as corporations grow” to be unused managerial services. More specifically, Takahashi (2015) referred to “competencies for start-up experts” that are required to start new businesses. According to Takahashi (2015), considering this, we can understand Penrose (1959) clearly. Takahashi’s (2015) idea can easily explain Penrose’s statement that “even though there may be no limitations as to scale, there are limits to the rate of growth.” This is because the competencies required to start new businesses are provided by members of management teams and are confined to members with shared values. As start-up businesses mature, they no longer require the competencies of start-up experts. Takahashi (2015) noted that this fact is consistent with the idea of Penrose (1959) that “If economies of growth are independent of economies of size, the economies of growth are temporary and disappear when the expansion is over.”

**Conclusion**

Based on the “corporate growth” cases of Intel and Walmart used by Helfat and Winter (2011) as examples of dynamic capabilities and assuming that most of the pure dynamic capabilities shown in Figure 1 comprise “competencies that cause firms to grow,” one can naturally conclude that pure dynamic capabilities are managerial services used when companies are expanding, as noted by Penrose (1959). More specifically, it is natural to think of them as services used to start up new businesses or new stores. In other words, most pure dynamic capabilities are probably similar to the “competencies of start-up experts.”

Empirical research on the theory of dynamic capabilities has made so little progress that a paper published in 2015 stated that empirical research on the topic was still in its infancy (Michailova and Zhan, 2015). The reason seems to be the lack of a clear idea regarding the
constituents of dynamic capability. However, when dynamic capabilities are understood, as in this study, to be competencies that generate growth and as competencies of start-up experts, a clearer picture of dynamic capabilities comes into view. We would like to conduct further research based on this idea.

Acknowledgements

This work was supported by JSPS Grant-in-Aid for Publication of Scientific Research Results, Grant Number 16HP2004.

References


