



Contents lists available at ScienceDirect

Journal of Business Research



Building a scale for dynamic learning capabilities: The role of resources, learning, competitive intent and routine patterning

Martie-Louise Verreyne^{a,*}, Damian Hine^a, Len Coote^a, Rachel Parker^b

^a School of Business, The University of Queensland, St Lucia, Queensland 4072, Australia

^b QUT Business School, Queensland University of Technology, Brisbane, Queensland 4001, Australia

ARTICLE INFO

Article history:

Received 26 November 2014

Received in revised form 31 March 2016

Accepted 1 April 2016

Available online xxxx

Keywords:

Dynamic learning capabilities

Scale development

Resources

Routines

Patterning

Competitive intent

ABSTRACT

Those researching organizational capabilities have largely accepted that the most fundamental operational capabilities form a hierarchy ranging from the lower-order dynamic functional to higher-order dynamic learning capabilities. Measurability has advantaged the first two types, resulting in numerous operationalized measurement scales. Yet at the strategic level, higher-order capabilities remain unmeasured, thus perpetuating issues of causal ambiguity. This paper responds by developing and presenting a measurement scale of dynamic learning capabilities (DLCs). Using multiple sources of data, we follow a five-step process to propose to measure and then validate a reliable scale consisting of three subscales. These subscales complement and thus extend the existing exploration and exploitation learning subscales. This predictive validity is further supported by relating all our subscales to perceived performance. Employing this dedicated new scale will enhance both the validity of studies on higher-order dynamic capabilities and the understanding of how firms create and use capabilities to drive performance.

© 2016 Elsevier Inc. All rights reserved.

1. Introduction

The research infrastructure supporting the field of organizational capabilities has been developed over the last two decades. Extensive early work undertaken into the taxonomies and definitions of the main concepts that underpin this field (Collis, 1994; Teece, Pisano, & Shuen, 1997; Eisenhardt & Martin, 2000) has been followed by an explication within many quality publications of the relationships between these concepts (e.g. Helfat & Peteraf, 2003; Teece, 2007; Schilke, 2014; Karna, Richter, & Riesenkaempff, 2015). The field has also benefited from research that seeks to provide a comprehensive analytical framework that synthesizes the major concepts into a cohesive whole. This includes establishing and refining a hierarchy of capabilities, ranging from operating capabilities to both lower-order dynamic functional and higher-order dynamic learning capabilities (DLCs) (Ambrosini & Bowman, 2009; Ambrosini, Bowman, & Collier, 2009; Collis, 1994; Hine, Parker, Pregelj, & Verreyne, 2014; Winter, 2003). As such, there is now convergence in how the broader capability field is conceptualized and a focus on measurement of different capability types is timely.

This is because for a field to progress from a view to a theory, conceptualization must be supported by empirical studies in a rigorous validation process (Barney, Ketchen, & Wright, 2011). To date, theory development through empiricization within the dynamic capability field has largely focused on establishing methods for specific dynamic functional capabilities, such as internationalization (Mort, Weerawardena, & Liesch, 2012), alliances (Rothaermel & Hess, 2007), and marketing (Vorhies & Morgan, 2005) [for a more comprehensive list of the diverse research directions see Barreto, 2010]. While functional measures are important, they only partially address the questions that researchers should ask. Hence, Ambrosini and Bowman's (2009, 36, 43) observation that “few studies explore (a) whether capabilities always operate singly, (b) whether they can operate in combination, and (c) which dynamic capabilities might be more suitable, depending on each firm's situation”. Measurability has advantaged the first two types of capabilities, resulting in numerous operationalized measurement scales. To illustrate, in a recent meta-analysis of the field, Karna, Richter, & Riesenkaempff (2015) were only able to find enough consistency in dynamic functional and operating capabilities to conduct a sufficiently robust analysis. Therefore, at the strategic level, the higher-order capabilities remain unmeasured, thus perpetuating issues of causal ambiguity. As Schilke (2014, 368) remarks: “there is a dearth of empirical work investigating the role of second-order dynamic capabilities”. Therefore, to help advance dynamic capability theory validation, we require empirical studies that use capabilities from different levels of the capability hierarchy. Without dedicated measures for

* Corresponding author at: Blair Drive, St. Lucia Campus, St Lucia, 4072, Queensland, Australia.

E-mail addresses: m.verreyne@business.uq.edu.au (M.-L. Verreyne), d.hine@business.uq.edu.au (D. Hine), l.coote@business.uq.edu.au (L. Coote), r.parker@qut.edu.au (R. Parker).

DLCs, the feasibility of such studies remains constrained and thus affects the rigour and legitimacy of the field.

Newer conceptualizations (e.g., Di Stefano, Peteraf, & Verona, 2014; Teece, 2014) show that learning in itself is an insufficient measure of DLCs, and that resources, competitive intent and routines are crucial to detecting the presence and level of DLCs in firms. When measured, authors (e.g., Schilke, 2014) are moving past using learning as a measure, but still present measures that tend to focus on one aspect of strategic types, in this case alliances. Therefore, while theoretical convergence has occurred, measures at the higher end of the hierarchy have not progressed, and do not truly represent all aspects of the definition of higher order DLCs. It is this gap that our scale is designed to address. Piecing together existing scales designed for other purposes, as has been the practice in dynamic capabilities studies to date (see Danneels, 2008; Jansen, Van den Bosch, & Volberda, 2006), may produce the desired outcomes. However, this developmental issue in which “arguably the most influential dynamic capabilities articles, those by Teece et al. (1997) and Eisenhardt and Martin (2000), use illustrative examples derived from data that, while pertinent, were not collected purposefully to understand dynamic capabilities” (Ambrosini & Bowman, 2009, 36), raises content validity issues. As a result the dynamic capability field would benefit from the dedicated development of fit-for-purpose scales focusing on the elements of the dynamic capability construct that have been hardest to measure and therefore define: higher-order DLCs.

In this paper, we seek to develop a designed-for-purpose scale for DLCs. This is a challenging task because it requires a rigorous scale development process. We therefore take a mixed-methods approach in the design, development and validation of an appropriate scale by following the guidelines established by DeVellis (2012). The platform used to guide the development of this new scale is founded on the first phase: the extensive conceptual work that has sought to integrate the major concepts and relationships that underpin our understanding of dynamic capabilities (Ambrosini & Bowman, 2009; Ambrosini, Bowman, & Collier, 2009; Hine, Parker, Pregelj, & Verreyne, 2014; Teece, 2014). This forms the basis of new appropriately derived items that capture elements specific to higher-order DLCs. However, it would not be prudent to ignore the valuable work done by authors such as Jansen, Van den Bosch, & Volberda (2006) and others. Therefore, we also integrate existing scales that are both most cited and used in dynamic capabilities studies.

We proceed by describing the process that led to the self-report DLC scale being developed and validated. We explain our phased approach to developing the new scale, and briefly present the results of the exploratory process we undertook to understand the relationship between the micro-foundations of capabilities, which are also regarded as their antecedents (Danneels, 2008; Teece, 2007), the environment that the firms operate within, and the capabilities that are evident in these firms. We then validate the new scale by using a series of empirical tests and by integrating results from our quantitative phase against the existing scales for their explanatory power as it relates to a dependent variable: performance. We conclude by discussing how the DLC scale can be used to advance the theoretical development of the dynamic capability field.

2. Conceptualizing dynamic capabilities and dynamic learning capabilities

It is generally accepted that dynamic capabilities are change-focused and thus act to create new resources, routines or operating capabilities (see Table 1 for definitions and examples). As such, dynamic capabilities have been conceptualized as a hierarchy (Collis, 1994; Winter, 2003), which has been extended to incorporate three levels of capabilities: operating capabilities, and lower and higher-order dynamic capabilities (Danneels, 2012; Hine, Parker, Pregelj, & Verreyne, 2014; Schilke, 2014). At the lower end of the hierarchy are ordinary/operating

capabilities. These are non-change focused capabilities fundamental to the day-to-day workings of the firm. On the next level up in the hierarchy lie dynamic functional capabilities. They are change-focused capabilities, but are still directly responsible for firm outputs and performance in dynamic environments. These are created by learning mechanisms, which suggests that they are lower in the capability hierarchy. We therefore now more closely examine these higher- or second-order capabilities, which from now on we refer to as Dynamic Learning Capabilities (DLCs).

DLCs involve coordination, learning, and strategic competitive response activities that include new creatively and innovatively derived routines and resources (see Table 1). This is the level at which the greatest concerns about causal ambiguity exist (Collis, 1994). If dynamic capabilities affect resources (through modification, cannibalization, renewal, accumulation, or divestment), the most easily measured effects of DLCs will be on resources. Yet, according to the accepted definitions of operating capabilities, resources are used and are also affected by dynamic functional capabilities (Schilke, 2014). Further, dynamic functional capabilities are generally considered to be discernible and relatively easily captured, at least by proxy. Indeed, as previously indicated, most of the scale development work to date has focused on dynamic functional capabilities such as marketing, international and alliance formation.

Causal ambiguity stems from the dynamic capability being either one (dynamic functional capabilities) or two (DLCs) steps removed from the ordinary capabilities, and thus the resources they influence. Therefore, developing measurement scales for higher-order DLCs requires unravelling their micro-foundations and antecedents to understand how they are different from dynamic functional capabilities and operating capabilities. Given that they are so difficult to measure directly, part of the unravelling depends upon revealing the elements that reflect DLCs.

Understanding that dynamic capabilities are built rather than bought in the market (Makadok, 2001), and as a result become embedded in a firm (Eisenhardt & Martin, 2000), means dynamic capabilities rely on an extensive *learning* process. For those within such a firm, learning from experience, but not experience alone, leads to building a stock of knowledge that itself needs to develop if it is to remain dynamic (Ambrosini & Bowman, 2009). Path dependence is an accepted aspect of dynamic capabilities (Zollo & Winter, 2002). However, capabilities must change to keep pace with environmental progress if they are to remain dynamic, or else they will become redundant and rusty owing to disuse (Winter, 2003). Over time, environmental dynamics will render each dynamic capability redundant. Therefore, former dynamic capabilities have the potential to cause problems for the firm by causing inertia (Szulanski, 1996), thereby worsening its competitive position. So we need to also take account of these as we test the capabilities of a firm.

But it is not only learning that is reflected in DLCs. Felin & Foss (2011) argue that, while the type of capability that a firm deploys depends on the environment's dynamism, its capabilities are influenced by how the firm develops *routines* and *resources* in response to this dynamism (Barreto, 2010). These authors argue that the empiricist assumptions of a blank slate and the experience created by response to external (usually social environmental) stimuli, which builds deterministically toward capabilities, fails to capture the dynamic capabilities' essence: dynamism itself (Felin & Foss, 2011, p. 7). Their concern is that all explanatory power is given to experience and repetition as exogenous variables. They believe that, at least in part, capabilities are built on endogenous stimuli, in that *intent and intentionality* and, to a lesser extent, a learning focus, motivate capability development. This view is pervasive in the literature, with Teece (2014) for example arguing that the ability of managers to recognize trends and guide the firm to respond are crucial features of DLCs – a surprisingly similar point to that of heuristics (see Eisenhardt & Martin, 2000).

Download English Version:

<https://daneshyari.com/en/article/5109882>

Download Persian Version:

<https://daneshyari.com/article/5109882>

[Daneshyari.com](https://daneshyari.com)