



Technology Management

The use of dynamic capabilities to boost innovation in a Brazilian Chemical Company

*A utilização das capacidades dinâmicas para impulsionar a inovação em uma Empresa Química Brasileira*

*La utilización de las capacidades dinámicas para impulsar la innovación en una empresa química brasileña*

Cristiane Froehlich<sup>a,\*</sup>, Claudia Cristina Bitencourt<sup>b</sup>, Marília Bonzanini Bossle<sup>b</sup>

<sup>a</sup> Universidade Feevale, Novo Hamburgo, RS, Brazil

<sup>b</sup> Universidade do Vale do Rio dos Sinos, CEP 93022000 São Leopoldo, RS, Brazil

Received 30 May 2016; accepted 23 February 2017

Scientific Editor: Paula Sarita Bigio Schneider

Abstract

Dynamic capabilities seek to explain how competitive advantages can be built in rapidly changing environments. This study aims to assess how the application of dynamic capabilities can contribute to the expansion of innovation capabilities. Data was collected on ten semi-structured interviews with executives from a chemical company, and analyzed using qualitative content analysis. Results indicate that the application of dynamic capabilities contributes to the development of innovation capabilities through the consolidation of the first dynamic capability (sensing), which fosters innovation. Sensing can be considered an organizational capability, resulting from the integration between organizational strategies and the innovation practices of the organization as a whole. This study brings the following contributions: the need to include a new microfoundation in the sensing capability, which in this study is called 'processes to manage innovation on a strategic level' and the need to adapt another microfoundation related to the sensing capability, called 'processes oriented toward collaboration with suppliers to complement and stimulate innovations within the company'. It is suggested that these processes should be reassessed in terms of their potential to generate and complement organizational innovation.

© 2017 Departamento de Administração, Faculdade de Economia, Administração e Contabilidade da Universidade de São Paulo – FEA/USP.

Published by Elsevier Editora Ltda. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

**Keywords:** Innovation capability; Dynamic capabilities; Microfoundations

Resumo

As capacidades dinâmicas procuram explicar como vantagens competitivas podem ser construídas em ambientes que mudam rapidamente. Neste estudo tem-se como objetivo analisar como a aplicação dos microfundações das capacidades dinâmicas pode contribuir para a expansão da capacidade de inovação. Os dados foram coletados por meio de dez entrevistas semiestruturadas com executivos de uma empresa química, e analisados por meio da análise de conteúdo qualitativa. Os resultados indicam que a aplicação dos microfundações das capacidades dinâmicas contribui para o desenvolvimento da capacidade de inovação, através da consolidação da primeira capacidade dinâmica (sensing), que estimula a inovação. Sensing pode ser considerada uma capacidade organizacional, resultante da integração entre as estratégias organizacionais e as práticas de inovação da organização. Além disso, este estudo traz as seguintes contribuições: a necessidade de incluir um novo microfundamento na

\* Corresponding author at: RS - 239, 2755, CEP 93352000 Novo Hamburgo, RS, Brazil.

E-mail: [cfroehlich@feevale.br](mailto:cfroehlich@feevale.br) (C. Froehlich).

Peer Review under the responsibility of Departamento de Administração, Faculdade de Economia, Administração e Contabilidade da Universidade de São Paulo – FEA/USP.

<http://dx.doi.org/10.1016/j.rausp.2017.08.007>

0080-2107/© 2017 Departamento de Administração, Faculdade de Economia, Administração e Contabilidade da Universidade de São Paulo – FEA/USP. Published by Elsevier Editora Ltda. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

capacidade de sensing, que neste estudo é chamado de “processos para gerenciar a inovação em um nível estratégico” e a necessidade de adaptar outro microfundamento relacionado com a capacidade sensing, chamado de “processos orientados para a colaboração com os fornecedores para complementar e estimular inovações dentro da empresa”. Sugere-se que estes processos devem ser reavaliados em termos de seu potencial de gerar e complementar a inovação organizacional.

© 2017 Departamento de Administração, Faculdade de Economia, Administração e Contabilidade da Universidade de São Paulo – FEA/USP. Publicado por Elsevier Editora Ltda. Este é um artigo Open Access sob uma licença CC BY (<http://creativecommons.org/licenses/by/4.0/>).

## Resumen

Las capacidades dinámicas tratan de explicar cómo ventajas competitivas pueden ser construidas en entornos que cambian rápidamente. En este estudio se analiza cómo la aplicación de los microfundamentos de las capacidades dinámicas puede contribuir a la expansión de la capacidad de innovación. Se han recogido los datos por medio de diez entrevistas semiestructuradas con ejecutivos de una empresa química, y se les ha aplicado el análisis de contenido cualitativo. Los resultados indican que la aplicación de los microfundamentos de las capacidades dinámicas contribuye al desarrollo de la capacidad de innovación por medio de la consolidación de la primera capacidad dinámica (detección), que fomenta la innovación. La detección puede ser considerada como una capacidad organizacional que resulta de la integración entre las estrategias de organización y las prácticas de innovación de la organización. Se aportan, además, las siguientes contribuciones: la necesidad de incluir un nuevo microfundamento en la capacidad de detección, que en este estudio se llama “procesos para la gestión de la innovación en un nivel estratégico”; y la necesidad de adaptar otro microfundamento relacionado con la capacidad de detección, que se traduce en “procesos dirigidos a la colaboración con los proveedores para complementar y estimular la innovación dentro de la empresa”. Se sugiere que estos procesos deben ser reevaluados en términos de su potencial para generar y complementar la innovación organizacional.

© 2017 Departamento de Administração, Faculdade de Economia, Administração e Contabilidade da Universidade de São Paulo – FEA/USP. Publicado por Elsevier Editora Ltda. Este es un artículo Open Access bajo la licencia CC BY (<http://creativecommons.org/licenses/by/4.0/>).

*Palavras-chave:* Capacidade de inovação; Capacidades dinâmicas; Microfundamentos

*Palabras clave:* Capacidad de innovación; Capacidades dinámicas; Microfundamentos

## Introduction

Dynamic capabilities seek to explain how competitive advantages can be achieved in rapidly changing environments. They include the capacity to: (1) sense and shape opportunities and threats; (2) seize opportunities; and (3) preserve an enterprise’s competitiveness by means of improvements, combinations, protection and, when required, reconfigurations of an enterprise’s tangible and intangible assets (Day & Schoemaker, 2016; Teece & Leih, 2016; Teece, Pisano, & Shuen, 1997; Teece, Peteraf, & Leih, 2016; Teece, 2007).

This approach may explain why some companies manage to identify and incorporate opportunities from the external environment into their routines and processes, by managing and assembling resources to obtain positive results while other companies are unable to develop such capabilities (Ambrosini, Bowman, & Collier, 2009).

Since dynamic capabilities include those capabilities required to address consumer changes and technological opportunities (Teece, 2007), it can also support the understanding of innovation capability application, which is one of the focus of this study – understanding the relationship between innovation, dynamic capabilities and innovation capability. Innovation capability facilitates the incorporation of knowledge and learning related to new products, services and processes. Innovation depends mostly on the way this process is conducted, i.e. it depends on the resources, routines and companies’ management capability (Tidd, Bessant, & Pavitt, 2008). Thus, strong dynamic capabilities have an “orchestration dimension” that allows the organization to quickly idealize, test and implement new innovations (Teece & Leih, 2016).

Although research on dynamic capabilities is considered consistent in studies on strategic management, and are associated with organizational change, innovation and competitive advantage (Güttel, Konlechner, & Müller, 2011), the area is still under criticism since the concept is mostly theoretical and difficult to implement (Arend & Bromiley, 2009). In order to address this issue, Teece (2007) introduced the concept of microfoundations – distinct skills, processes, procedures, organizational structures, decision rules, and disciplines that will combine to allow the implementation of the dynamic capabilities of sensing, seizing and reconfiguring (Teece, 2007) – that represent an attempt to operationalize it through routines and processes.

Nevertheless, microfoundations’ definition is still too broad and require further investigation on regard to its ability to explain and put on practice dynamic capabilities. Therefore, this paper seeks to investigate two gaps observed in the studies concerning dynamic capacities: (a) the relationship between dynamic capabilities, innovation and innovation capability; (b) the understanding and operationalization of microfoundations, which have not yet been sufficiently explained in the literature.

Briefly, this article seeks to understand the role of microfoundations in the consolidation of dynamic capacities to leverage innovation in a company in the Brazilian chemical industry. Although the relationship between innovation and dynamic capabilities has already been addressed in previous studies (Day & Schoemaker, 2016; Ellonen, Wikström, & Jantunen, 2009; Ellonen, Jantunen, & Kuivalainen, 2011; Katkalo, Pitelis, & Teece, 2010; Kindström, Kowalkowski, & Sandberg, 2012; Pasian, Sankaran, & Boydell, 2012; Teece & Leih, 2016; Teece et al., 2016), we believe that dynamic capacities contribute indirectly to this relationship that is mediated by the capacity for

Download English Version:

<https://daneshyari.com/en/article/7438094>

Download Persian Version:

<https://daneshyari.com/article/7438094>

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