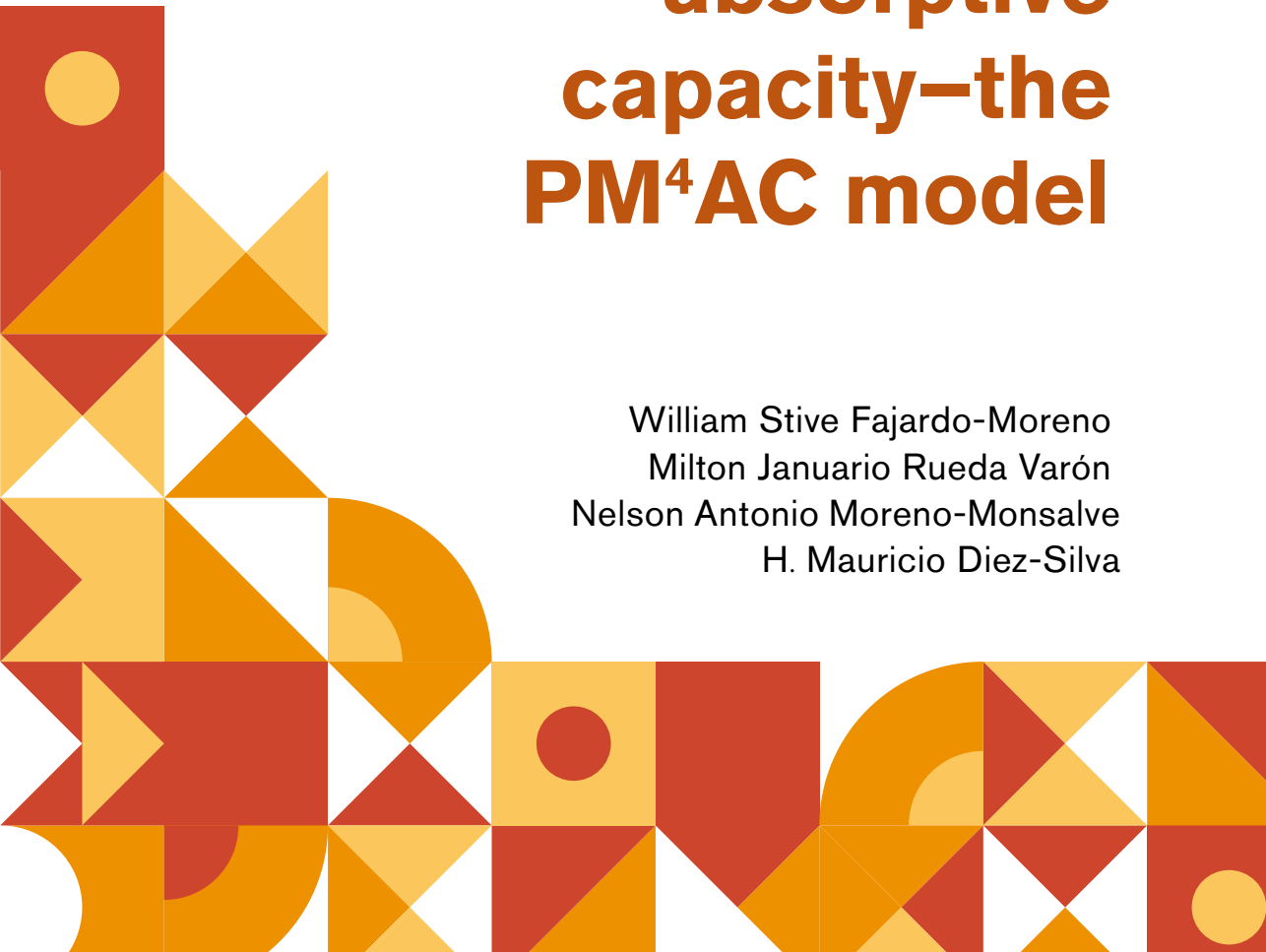


Project management and direction organizational absorptive capacity—the PM⁴AC model

William Stive Fajardo-Moreno
Milton Januario Rueda Varón
Nelson Antonio Moreno-Monsalve
H. Mauricio Diez-Silva



Project management and
direction organizational
absorptive capacity—the
PM⁴AC model

**PROJECT
MANAGEMENT
AND DIRECTION
ORGANIZATIONAL
ABSORPTIVE
CAPACITY—THE
PM⁴AC MODEL**

- » William Stive
Fajardo-Moreno
- » Milton Januario
Rueda Varón
- » Nelson Antonio
Moreno-
Monsalve
- » H. Mauricio
Diez-Silva

Fajardo-Moreno, William Stive

Project management and direction organizational absorptive capacity – the PM4AC model / William Stive Fajardo-Moreno, Milton Januario Rueda-Varón, Nelson Antonio Moreno-Monsalve, Henry Mauricio Diez-Silva.

Descripción: 1a edición / Bogotá: Universidad Ean, 2022.

Colección: Dirección y gestión de proyectos
128 páginas

eISBN: 9789587566741

- | | |
|---|--|
| 1. Administración de proyectos -- Investigaciones | 2. Integración (Teoría del conocimiento) |
| 3. Mejoramiento de procesos | 4. Gestión del conocimiento |
| 5. Investigación y desarrollo | 6. Competitividad |

I. Rueda-Varón, Milton Januario
III. Diez-Silva, Henry Mauricio

II. Moreno-Monsalve, Nelson Antonio

658.404 CDD23

Catalogación en la fuente: Biblioteca Universidad EAN

Edición: Gerencia de Investigación y Transferencia

Gerente de Investigación y Transferencia: Leonardo Rodríguez Urrego

Coordinadora de Publicaciones: Laura Cediél Fresneda

Corrección de estilo: Juan Carlos Velásquez

Diseño y diagramación: Precolombi EU

Publicado por Ediciones EAN, 2022.

Todos los derechos reservados.

© Universidad EAN, El Nogal: Calle 79 # 11-45

Bogotá D.C., Colombia, Suramérica, 2022.

Prohibida la reproducción parcial o total de esta obra sin autorización de la Universidad EAN.

Universidad EAN: SNIES 2812 | Personería Jurídica Res. n.º 2898 del Minjusticia - 16/05/69 | Vigilada Mineducación. CON ACREDITACIÓN INSTITUCIONAL DE ALTA CALIDAD, Res. n.º 29499 del Mineducación 29/12/17, vigencia 28/12/21.

Producido en Colombia.

Contenido

PROLOGUE	9
PRESENTATION	11
INTRODUCTION	15
1. CHAPTER 1: BACKGROUND	19
1.1. Project Management	19
1.2. Relationship between project management and performance in organizations	20
1.3. Dynamic capabilities	24
1.4. Absorptive capacity	30
1.4.1. Subsets of absorptive capacity	31
1.4.2. Dimensions of the dynamic absorptive capacity	33
1.5. Measurement of dynamic absorptive capacity	37
1.6. Dynamic absorptive capacity in project management	39
1.6.1. Conceptual design of the PM ⁴ AC	41

2. CHAPTER 2: MODEL FOR MEASURING DYNAMIC ABSORPTIVE CAPACITY IN PROJECT MANAGEMENT—PM⁴AC VERSION 1.0.	43
2.1. Description of the model domain	44
2.1.1. Conceptualization of dynamic absorptive capacity in project management	44
2.1.2. Determinants of dynamic absorptive capacity in project management	46
2.2. Model overview	49
2.2.1. Objective	49
2.2.2. Model components	49
2.2.3. Source of data for modeling	51
2.2.4. Construction of the model	65
3. CHAPTER 3: MODEL VALIDATION	91
3.1. Conceptual validation of the PM ⁴ AC version 1.0	92
3.1.1. Description of the conceptual validation	92
3.1.2. Scope	92
3.1.3. Method	92
3.1.4. Results	95
3.2. Algorithm Validation of the PM ⁴ AC, Version 2.0	99
3.2.1. Description of the Algorithm Validation	99
3.2.2. Scope	100
3.2.3. Method	100
3.2.4. Results	102
4. CHAPTER 4: CONCLUSIONS	107
4.1. Contrasting the empirical evidence of the results	107
4.2. Contributions to the discipline	108
4.3. Limitations	110
4.4. Future investigations	111
REFERENCES	113

Prologue

This book gathers an important research process in the field of project management, addressing a current issue for the challenges posed by highly competitive environments, such as the relationship of projects with knowledge, more specifically with external knowledge. For this purpose, it uses the dynamic absorptive capacity, a concept widely used in the scientific literature but little explored in project management.

The analysis presented in this book constitutes a fundamental element in the analyzes that every organization in the world should carry out, paying special attention to its capacity to acquire, assimilate, transform, and commercially exploit the knowledge of its environment. Based on the above, the organization acquires skills for the adaptation to different circumstances, which will be highly beneficial in its survival process in the market.

The book also presents a practical tool to determine the magnitude of the dynamic absorptive capacity. This makes it possible to establish a baseline to initiate a process of continuous improvement, which provides the opportunity to improve the competitiveness of the organization based on proper knowledge management. In this same sense, the model presented in this document contains a series of intervals that offer the possibility for the organization to catalog its results qualitatively.

It is therefore a valuable tool for all those project managers who can see in their projects an entity for the transformation of the organization, which will allow them to achieve their vision and strategic objectives in a planned and organized way.

Presentation

In order to contribute to business sophistication and the development of innovation, and thus help overcome the difficulties in terms of poverty, low competitiveness, and lack of sophistication in the productive sectors, an important challenge must be considered: to develop mechanisms that allow companies to adapt to globalized competitive environments such as those of today's market (Marcato, *et al.*, 2009). In this regard, projects and project management represent an opportunity for developing organizations (Kerzner, 2000), considering that the essence of project management is to support the execution of the organization's competitive strategy in order to achieve the desired results, for example, rapid market entry, high quality, and low-cost products (Milosevic & Srivanna-boon, 2006; Ul Musawir *et al.*, 2017).

In this sense, recent research in project management has raised the need to develop new studies that allow organizations to

adapt to their environments based on their projects (Clegg *et al.*, 2018). As such, it is important to clarify that dynamic capabilities are an element that facilitates project management performance in organizations (Davies *et al.*, 2018; Hermano & Martín, 2016; Lacruz *et al.*, 2019). Likewise, the aforementioned dynamic capabilities should be understood as company processes that allow integrating, reconfiguring, obtaining, and releasing resources to match or create a change in the market, and specifically in the absorptive capacity that allows companies the ability to recognize the value of new external knowledge, incorporate it as internal knowledge, and implement it for commercial purposes (Cohen & Levinthal, 1989). This absorptive capacity offers the opportunity to adapt to dynamic environments, providing the project with the skills to interact with the environment in which it is developed.

Equally, dynamic capabilities in project management have been the subject of research in light of their benefits for organizations. Thus, it was possible to establish that absorptive capacity can contribute to the performance of research and development (R&D) projects, considering external influences as a learning factor (Biedenbach & Müller, 2012), as it has also been explored as a moderating effect of human resources, and its relationship with project performance (Popaitoon & Siengthai, 2014). Studies also demonstrate its relevance, as is the case of the work developed by Bjorvatn and Wald (2018), in which it was possible to conclude that absorptive capacity plays a critical role in complex projects, quantifying its importance at 23.1%.

In the same way, the dynamic capacity in project management allows strengthening organizations through the improvement of their competitiveness (Calderón *et al.*, 2018; Nørbjerg *et al.*, 2017)), which seeks to take advantage of the increase in competitiveness to reduce poverty rates, as this relationship is documented in the literature (Cammack, 2009; Kula *et al.*, 2006; Lall, 2003). However,

there is no documented measure in the literature to determine the degree of dynamic absorptive capacity in project management, which is a basic element to undertake a path of improvement for organizations and thus have an impact on increasing competitiveness and reducing poverty.

From a project management perspective, the literature recognizes the strategic importance of project management in the business world, identifying a bidirectional influence for mutual benefit (Srivannaboon & Milosevic, 2006). This allows project management to become an element that provides flexibility to organizations due to its temporary nature, and to favor their adaptation to changes in the environment (Ash, 2007).

For the reasons previously stated, the model for measuring dynamic absorptive capacity in project management (Pm⁴AC) is proposed as a tool to measure this capacity in organizations worldwide, providing a starting point for its progressive improvement in the conversion of knowledge into benefits for organizations.