

## **The role of dynamic capabilities for business model innovation in organizations from relatively stable markets**

### **O papel das capacidades dinâmicas para a inovação em modelos de negócios em organizações que operam em ambientes de negócios estáveis**

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**Abstract:** The present paper describes how dynamic capabilities contribute to business model innovation in traditional organizations. It draws on a qualitative research design based on a case study of a traditional multinational company operating in a relatively stable market, the construction materials industry (production and sale), which developed a service solution in lightweight façades. In addition to describing how the sub-dimensions of dynamic capabilities contributed to the success/failure of the new business model, from its idealization and structuring to its execution, the paper documents which dynamic capabilities were present at the beginning and which ones were developed during the innovation. The study uncovers four important findings: 1) dynamic capabilities should be present in top leadership for the development of business model innovation; 2) the occurrence of dynamic capabilities takes place in a non-

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sequential and non-linear fashion; 3) dynamic capabilities contribute to the creation of competitive advantages in relatively stable environments; and 4) existing resources are important catalysts for business model innovation in traditional organizations. The paper hence highlights the role of top leadership in business model innovation, as well as identifies the contribution of dynamic capabilities in relatively stable markets, alongside the catalyzing role of available resources in traditional organizations.

**Keywords** – Innovation; Business model; Dynamic capabilities; Case study.

**Resumo:** Este artigo descreve como as capacidades dinâmicas contribuem para que as organizações tradicionais desenvolvam inovações em modelos de negócios. A pesquisa foi realizada a partir de uma abordagem qualitativa de estudo de caso em uma multinacional estabelecida do ramo de materiais para construção (produção e venda), um mercado relativamente estável, que passou a ofertar uma solução de serviços em fachadas leves. Além de descrever de que forma as subdimensões das capacidades dinâmicas contribuíram para o sucesso/insucesso do novo negócio, desde sua idealização e estruturação, até a sua execução; o artigo evidencia quais capacidades dinâmicas estavam presentes no início e quais foram desenvolvidas ao longo da inovação. A pesquisa evidencia quatro achados importantes: 1) as capacidades dinâmicas devem estar presentes na alta liderança da organização; 2) a ocorrência das capacidades dinâmicas não é sequencial ou linear; 3) as capacidades dinâmicas contribuem para criação de valor e vantagens competitivas mesmo em mercados relativamente estáveis; e 4) determinados recursos de uma organização tradicional são importantes catalizadores de resultados. A pesquisa reforça assim o papel da alta liderança em inovações de modelos de negócios, bem como a contribuição das capacidades dinâmicas em mercados relativamente estáveis e a função catalizadora dos recursos disponíveis em organizações tradicionais.

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**Palavras-chave** – Inovação; Modelo de negócios; Capacidades dinâmicas; Estudo de caso

## **Introduction**

A major strategic challenge for today's traditional organizations is dealing with new business models (Santa-Maria et al., 2022). That is, finding new ways to “go to market” (Teece, 2007, p. 1329). Iconic companies have succumbed to the process of creative destruction (Schumpeter, 1942) – such as Polaroid (Tripsas & Gavetti, 2000), Nokia (Vuori & Huy, 2016) and Blockbuster (Raffaelli et al., 2019) – because of the cognitive barriers in the execution of new business models, and not because of the challenges in incorporating novel technologies. As illustrated by these examples, a company's value proposition needs to change when new products are launched (Frishammar & Parida, 2019) or when its operations are put in check. Economic and health-related crises, competition from new entrants, the emergence of new technologies and new markets are factors that require traditional organizations be able to sustain themselves and sometimes to reinvent themselves (Christensen & Bower, 1996). Compared to other types of innovation, such as process, product, and market positioning, business model innovation (BMI henceforth) portrays higher failure rates. This is because business models become less flexible and more resistant to change as they consolidate over time. Even though failure is often attributed to its holistic, interdependent, and systemic nature, BMI lacks better solutions for increasing success rates (Christensen et al., 2016).

In the search for such solutions, existing literature has focused on developing categories of new “types” of business (Foss & Saebi, 2017), as well as analyzing the drivers and barriers to innovation (Bocken & Geradts, 2020; Santa-Maria et al., 2022). By describing how new business models are created and how they evolve over time, depending on the industry and technological maturity, research seeks to explain how traditional organizations can survive and even thrive in periods of radical change, being able

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to overcome inertia (Eggers & Park, 2018). Traditional organizations need catching up in terms of innovation and differ substantially from startups that typically are born digital (Dressler & Paunovic 2022). As business models encompass everything from product architecture to outcomes, in terms of customer satisfaction (value proposition), and profit formula (value capture), they shape competitive advantage (Heider et al., 2021).

A promising theoretical lens in this context refers to dynamic capabilities (Teece, 2018). According to this theoretical tradition, the main strategic issue is how a traditional organization renews its competitive advantages, either in a stable market or in a dynamic market characterized by Schumpeterian competition (Shilke et al., 2018). The central issue is the organization's ability to sense, seize and transform new business opportunities (Inigo et al., 2017). Business models are modified by dynamic capabilities (Heider et al., 2021) in the sense that these are fundamental for an organization to implement, test and refine novel and revised business models (Oliveira-Dias et al., 2022). At the same time, dynamic capabilities depend on the degree of organizational flexibility provided by the business model; this applies to both the design of the original model and the recombination of its elements (Teece, 2018).

By establishing that the strength of an organization's dynamic capabilities determines its proficiency in BMI (Santa-Maria et al., 2022), existing literature suggests these concepts are interrelated. However, the way in which these interactions take place remains poorly identified (Soluk et al., 2021). "While these relationships are understood at a theoretical level, there is a need for empirical work to flesh out the details" (Teece, 2018, p. 40). Anecdotal evidence indicates that BMI is not a matter of privileged *ex ante* anticipation of the future, but rather a matter of *ex post* experimentation and adaptation (Chesbrough, 2010). It is not yet explained what encourages commitment to experimentation (i.e., the underlying processes), to enable traditional organizations to implement BMI and, moreover, what can lead to more success stories. Knowledge about the antecedents, moderators and outcomes of this type of innovation is rather limited (Foss & Saebi, 2017).

The present study empirically examines how different facets of dynamic capabilities drive BMI. It investigates the following research question: *how do dynamic capabilities contribute to business model*

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*innovation in traditional organizations?* Through a qualitative, single-case study approach (Siggelkow, 2007), this paper describes the role of dynamic capabilities for traditional organizations that develop new business models. The case study is based on a multinational private company that has operated for decades in a relatively stable market producing and selling construction materials and that, in recent years, launched a new service operation. Breaking away from its usual operational routine, the company offered a complete solution for the construction of lightweight façades: from the production to the final delivery, including service validation.

In addition to identifying the sub-dimensions of the dynamic capabilities that have contributed to the success/failure of the new business, from idealization to execution, the paper documents which dynamic capabilities were present at the beginning and which ones were developed throughout the new business model. Describing how dynamic capabilities contribute to traditional organizations implement BMI is crucial for sustaining the competitive advantages that ensure organizational longevity (Christensen et al., 2016). Likewise, the results serve as a practical guide for managers in future BMIs, either in similar markets or in the contexts where the development of dynamic capabilities is crucial.

### **Theoretical Framework**

#### **Business Model Innovation**

The term business model gained prominence during the e-commerce boom in the 1990s, when it was used in executive and academic media to represent anything related to the so-called “new economy” of the time. The failure of dot-coms in the late 1990s slowed initial theorizing (Goyal et al., 2017), as the term was considered ambiguous because it referred to “a vague conception of how a company does business and generates revenue” (Porter, 2001). Among the various definitions proposed since, the one by Teece (2010, p. 172) is largely accepted: “business model describes the design or architecture of the mechanisms of creation, delivery and capture of value that a company employs”. The essence of a business

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model is to define the way in which the organization delivers value to customers, encourages customers to pay for this value, and converts these payments into profit (Goyal et al., 2017).

Business models are typically described according to three components: value creation, value proposition, and value capture (Ritter & Lettl, 2018). Value creation addresses issues related to organizational boundaries within the value chain, including decisions to produce internally or buy externally. Value proposition deals with how the organization delivers value to its stakeholders, whether they are customers, suppliers, investors, or employees. It defines which customers should be served with which range of products, through which sales channels and how the company positions itself competitively. Value capture defines revenue gains earned by the combination of value creation and value proposition, that is, how the organization makes money (Heider et al., 2021). The components must be coherently aligned, because the most important factor is how they create (or not) competitive advantage (Ritter, 2014).

To be successful, business models cannot be static. The notion of introducing changes in business model architecture has been the subject of many investigations, as it has proven difficult to implement (Foss & Saebi, 2017). At least one component, or all components, must be renewed to be considered a BMI (Heider et al., 2021). It encompasses the process of both creating an entirely new model through a startup and adapting a current model (Santa-Maria et al., 2022). BMI can play two roles: as a vehicle for innovation, allowing innovative products and technologies to be marketed; and, as a source of innovation itself, by changing “the old way of doing things” (Nußholz, 2017, p. 5).

Just as product innovations are more imitable than process innovations (Schoemaker et al., 2018), BMI is not easily copied. However, being the first organization to launch a new business model is not always a way to gain competitive advantage. It can teach the market about the new value proposition, paving the way for rivals (Teece, 2018). Therefore, BMI only works if it optimizes organizational capabilities and resources, generating value.

### **Organizational capabilities**

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Business models act as a bridge between an organization's internal capabilities and the business ecosystem, including suppliers, customers and other stakeholders (Inigo et al., 2017). As organizational capabilities develop incrementally in daily operation, they encompass a great diversity of meanings, from core competence to collective skills, complex routines and best practices. There is nevertheless consensus in the literature that a capability is not a single resource, but rather a differentiated way of allocating resources (Barney, 1991).

While resources and processes define organizational capabilities (how things are done) value proposition and value capture define organizational priorities (what is done and why) (Christensen et al., 2016). Organizational capabilities develop collectively and are incorporated into the culture as a result of past experiences and organizational learning (Winter, 2000), a process in which a specific way of "selecting and linking" resources develops gradually (Schreyögg & Kliesch-Eberl, 2007). Replicating patterns of selecting and linking resources also presents risks. Strengths based on organizational capabilities and their recursive repetition can become an obstacle to the necessary adaptation to change required in dynamic environments. The inability of organizations to change their usual *modus operandi* when faced with new circumstances, known as inertia, underlines the limits of organizational capabilities, resulting in the need for "dynamic capabilities" (Schreyögg & Kliesch-Eberl, 2007). New business models necessarily require the transformation of organizational capabilities (Inigo et al., 2017).

The notion of "dynamism" is applied to address the continuous renewal of organizational capabilities (Helfat & Peteraf, 2003). Whereas the Resource-based View emphasizes the company's current resource base, covering tangible and intangible assets (Peteraf & Barney, 2003), the dynamic capabilities perspective addresses intentional modifications of that resource base (Schilke et al., 2018). According to this reasoning, there is a hierarchy of capabilities, where: 1) operational (or common) capabilities, also called first-order or "zero-order", refer to all capabilities directed at maintaining and leveraging the *status quo* in terms of scale and scope of activities, business, product lines and customer segments; and, 2) dynamic capabilities directed to strategic change, also called "first-order" or "second-order" capabilities (Winter, 2003; Danneels, 2008).

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### **Dynamic capabilities**

Dynamic capabilities involve a new configuration of resources and operational routines to meet a changing environment (Cepeda & Vera, 2006). They grant competitive advantage by adding unique value to the organization through systematic changes, which increase operational efficiency and allow greater alignment with the external environment (Di Stefano et al., 2014). They are defined as the “ability of the company to integrate, build and reconfigure internal and external competencies to deal with rapidly changing environments” (Teece et al., 1997, p. 516).

Dynamic capabilities allow companies to create, implement and protect assets that generate positive long-term results, that is, how they identify an opportunity, decide to seize it and organize themselves to do so, making it an intrinsic organizational quality (Teece, 2007). Competitive advantage comes from new configurations of resources and operational capabilities, not from the dynamic capabilities themselves (Cepeda & Vera, 2006). The strength of dynamic capabilities determines the speed, degree, and associated cost of aligning an organization’s resources, including its business model(s), with customer needs (Winter, 2003).

Dynamic capabilities manifest themselves in distinct ways, not being a monolithic concept (Helfat et al., 2007). In their extensive literature review, Schilke *et al.* (2018) reveal that 53.4% of the studies drawn on a process approach distinguishing between: Sensing, which is the ability to notice and analyze opportunities and threats; Seizing, which is the ability to internalize knowledge as to exploit opportunities or face threats; and Transforming, which is the ability to adapt resources and reconfigure business models (Teece, 2007). Day & Schoemaker’s (2016) proposal to subdivide them into six components further details the nature of dynamic capabilities, since they interconnect synergistically.

Sensing involves identifying new market trends in relation to the business model and value proposition. It includes the initial process of generating ideas for BMI, as well as monitoring changes in competition (Inigo et al., 2017). Within the scope of Sensing, there are the components of Peripheral Vision and Vigilant Learning. Peripheral Vision means the ability to see weak signals about embryonic



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opportunities and threats before competitors do, in addition to predicting future trends. Vigilant Learning is the ability to understand and interpret signs attentively, consciously, and actively (Day & Schoemaker, 2016).

When relevant opportunities and threats have been detected, the next step is to operationalize them through a systematic approach of combining technological and market knowledge for the evolution of current business models or for the creation of new ones (Inigo et al., 2017). Subdivided into Probe and Learn and Flexible Investing, Seizing involves mobilizing resources so that the organization can capture value from the emerging opportunity (Bocken & Geradts, 2020). Probe and Learn represents the process of rapid experiments, planned as tests that generate knowledge about a given situation (product or market) to corroborate decisions of greater complexity. Flexible Investing means the company's ability to begin a strategic move that requires investments, without compromising all its financial capacity and keeping the option viable in the face of uncertainty (Day & Schoemaker, 2016).

Finally, it is necessary to build new skills to implement the renewal vital for BMI (Inigo et al., 2017). Transforming is subdivided into Organizational Redesign and External Shaping. Organizational Redesign is a relevant and sensitive aspect of companies, since it is closely linked to power relations, dependence, and speed in decision-making. It is also closely related to business models and dynamic capabilities (Bocken & Geradts, 2020). Organizational Redesign is the ability to shape the organizational structure of the new business with autonomy, agility and flexibility. Not only the internal structure, but the external ecosystem needs to adapt – and this is what External Shaping conveys. From the relationship with consumers and suppliers to external knowledge sharing networks, they need to be in line with the new reality (Day & Schoemaker, 2016).

### **The relationships between business model innovation and dynamic capabilities**

Previous research supports a close link between BMI and dynamic capabilities. From a conceptual and more generic point of view, this link seems well established. The ability to innovate the business model in response to changes in the external environment is considered a dynamic capability itself by

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some authors (Foss & Saebi, 2017), while others establish an iterative, cause-and-effect relationship in which the strength of an organization's dynamic capabilities determines its competence in designing novel business models. Due to of its effect on the organization's design, a business model influences organizational capabilities and imposes limits on the viability of specific strategies (Teece, 2018).

From an empirical and more practical point of view, this link is still unclear, even if recent studies have gone into details about it. For example, Bocken & Geradts (2020) and Heider et al. (2021) found evidence that sensing and seizing dynamic capabilities contribute to BMI, especially for value creation and value proposition. Inigo et al. (2017) identified a different set of dynamic capabilities for BMI that includes sustainability. In a similar fashion, Santa-Maria et al. (2022) described 26 practices involving sensing, seizing, and transforming specifically used for innovations in sustainable business models linked to the circular economy. Meanwhile, Oliveira-Dias et al. (2022) explained which activities feed the dynamic capabilities required for innovation in sustainable business models in logistics startups. Soluk et al. (2021) found that dynamic capabilities are antecedents of innovation in digital business models in family businesses.

In sum, BMI requires robust dynamic capabilities, but the organizational processes that foster it need more detailed explanations (Teece, 2018). The literature mapped the main barriers, relating them to cognitive limitations and pressures for short-term investment (Bocken & Geradts, 2020). Only recently have some studies begun to empirically identify the mechanisms that encourage the development of the dynamic capabilities required for BMI (i.e., Heider et al., 2021). However, the way in which these mechanisms operate is still poorly known, especially for traditional organizations that face greater challenges for this type of innovation compared to startups (Oliveira-Dias et al., 2022).

### **Methodology**

The present study employs a qualitative approach (Eisenhardt & Graebner, 2007) to describe the experience of a traditional organization that innovated in its business model. A case study was carried out,

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ideal for answering questions of “how” or “why” (Yin, 2013). Case studies are valuable as illustrations, and as generators of novel theoretical insights (Siggelkow, 2007). Although caution is needed, a single case can provide the basis for a theoretical explanation of a general phenomenon (Hyde, 2000).

### **Empirical context**

The research was carried out with a multinational holding company in the materials industry, specialized in construction and flat glasses. The case study was selected through theoretical sampling (Eisenhardt & Graebner, 2007) that represented BMI. Our choice was guided by the potential for uncovering new mechanisms of interaction between dynamic capabilities and BMI. As this innovation type occurs less frequently in traditional and older companies, the most investigated empirical context is that of new ventures and startups (Foss & Saebi, 2017).

GlassPort (*fictitious name*) is a traditional organization with hundreds of years of background that features thousands of employees in several countries. Historically, GlassPort has marketed materials for infrastructure, transportation, industrial applications, and civil construction, including those needed for building façades. Its business model was limited to the manufacturing and sale of physical products, and therefore lacked experience with other forms of offerings. In recent years, the company spotted a new opportunity: it set out to develop a complete system for lightweight façade solutions. This novel business model was investigated in the present study, since it encompassed significant changes in the “go to market” strategy, the relationship the company builds with customers and suppliers, and how it structures operations. This means that GlassPort made changes to the three components of its traditional business model: value creation, value proposition, and value capture. According to Foss & Saebi (2017)’s categorization, the case of lightweight façades refers to an “adaptive” BMI. As a response to changes in the external environment, it is an adaptation of the business model architecture, considered new to GlassPort, although not necessarily to the world.

### **Data collection**

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We carried out two exploratory interviews with a GlassPort top executive as to negotiate access to the case study. The first interview was conducted in May 2019, in which the top executive shared examples of new businesses under development and the researchers described the objectives of the study, as to assess the appropriateness of the empirical context in question. The second exploratory interview was conducted in November 2019, in which more details of GlassPort's operation and the identification of relevant informants were shared. The objectives of the exploratory interviews were to collect initial information about GlassPort's new business model, identify a possible case study that would meet the research objectives, as well as negotiate data access, including a confidentiality agreement. The exploratory interviews did not follow a specific protocol and therefore did not function as actual sources of data collection.

The interviews used as primary data sources were conducted in one of the company's offices in the city of São Paulo, on February 18, 2020, with six managers from the business unit (BU henceforth) responsible for the BMI. All interviews were conducted using a semi-structured questionnaire (available upon request), which allowed the interviewees to share perceptions of the company and of the challenges experienced, as well as ensuring the freedom to express their opinions and possibly add topics not initially included. The questions were structured according to the concepts of dynamic capabilities and BMI. The interviews were carried out individually, as shown in Table 1. The interview time ranged from 27 to 110 minutes, totaling five hours of recording. All interviews were recorded and transcribed for analysis.

**Table 1.**  
Data collection

Code	Position	Company tenure	Interview duration	Date
INTERV 01	Unit Director	30 years	01:49:01	18/02/2020
INTERV 02	Technical Consultant	04 years	00:26:42	18/02/2020
INTERV 03	Sales Coordinator	21 years	00:37:57	18/02/2020
INTERV 04	Project coordinator	07 years	01:07:55	18/02/2020

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INTERV 05	Technical Manager	20 years	00:27:11	18/02/2020
INTERV 06	Technical Coordinator	06 years	00:39:16	18/02/2020

In addition to the interviews, secondary data comprised the material collected for the study. A document used by the leader of the new BU was analyzed (DOC 1). It described the value proposition, technical information about the new business, the team's organizational structure, an analysis of the consumer market and competitors, the operation's characteristics, and future expectations. Official data published by GlassPort on its official website were also analyzed. The secondary data allowed the triangulation of evidence through factual contextualization of the case and the market, in addition to the organizational impact and the structure of BMI. They were used to validate interpretations of primary data (Yin, 2013).

### **Data Analysis**

The interviews were examined through content analysis in two coding rounds with different objectives: the first round, under the deductive prism (Janiszewski et al., 2016), sought to find in the data the theoretical assumptions previously identified in the literature; the second round, under the inductive prism (Eisenhardt et al., 2016), sought to identify themes emerging in the interviews and not initially included. Day and Schoemaker's (2016) framework was used for the analytical deduction during the first coding round. During the second coding round, it was observed that the BMI was the result of other organizational factors. For example, a consolidated innovation culture contributed to the development of a new business model; the strength of a centuries-old brand and reputation brought the necessary credibility to the market; the operational autonomy granted to the BU allowed it to be agile and adaptable. Table 2 features data analysis according to the methodology proposed by Gioia et al. (2013).

**Table 2.**  
Coding Overview and Illustrative Quotes

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Illustrative quotes	First-order construct	Second-order construct	Aggregate Concept
[Do you know how this came into GlassPort? What was the moment?] “It was [country manager of the company in Brazil] in fact, who brought this idea up. And it was a novelty for GlassPort, because GlassPort always produced and sold products. It didn't have a service provision.” (INTERV 06)	Peripheral Vision	Sensing	Dynamic Capabilities
“We are looking for new systems. We are aware of the market, what it needs. It goes back to the question of listening to the customer. We are listening to the customer. So, we have two façade systems that are basically done on site. The client today is asking us: ah, but what if this façade system came ready, so I could hang it here on site? So, we have already started developing it”. (INTERV 05)	Vigilant Learning		
“But after that, over time, things were falling into line. We realized: it works here, it doesn't work here. Let's follow that path. This is making more sense. We stopped banging our heads a little bit and went with the flow. Today we can say that we are still working on this flow, we do not have it 100% figured out, but we are getting to that point”. (INTERV 02)	Probe and Learn	Seizing	
“We need to have this system validated. Because we had the concrete slab, a joint treatment system and we had the installer. We did not have a system validated by IPT [Institute of Technological Research of São Paulo, regulatory body], for example. Because it passed the fire resistance, soft body and hard body tests, a lot of tests that guys do there to validate it. So, we were at the mercy the installer.” (INTERV 03)	Flexible Investing		
“Because you had five companies, which are part of the façade system. (...). And the option was to stay anchored in the two with the highest revenues. However, I had two project sponsors. One was the general director of [Business Unit 1] and the other the general director of [Business Unit 2] (...). But, from a little over a year ago, November 2018, the companies of the group got together (...) So, in the beginning we reported to the five, today the five companies are joined into one" (INTERV 01)	Organizational Redesign	Transforming	
“We have an important role, to do the accreditation, registration, and training of the accredited external workforce [partners] to be able to serve the market. It is no use you have a system, you have products, you have quality, you have innovation, you have certification, and no one to do the work.” (INTERV 01)	External Shaping		

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<p>“The decision of the moment was for situation two, to have a business unit, with a director, but who had other duties. He would use labor from the group companies to be able to advance in this segment. And it was at that moment that I said: It will not work. Because you have several people working focused on other things, other people in charge. So, the sense of priority of these people working in other companies in the group is very diverse. (...) Because, first, you need to have a team when you have the product certified, you need to have a dedicated team. I need to come specifically to take effective care of the BU and assemble a team of my own.” (INTERV 01)</p>	<p align="center">Trust</p>	<p align="center">Culture</p>	<p align="center">Organizational Behavior</p>
<p>“So, if we are a product-product company, but if it values innovation. Innovation is in the DNA of GlassPort. Always valuing innovation... why don't we innovate the constructive system? Since we have this focus on housing as a constructed environment, and focus on innovation, are we going to innovate in the construction system?” (INTERV 05)</p>	<p align="center">Innovation</p>		
<p>[Do you have freedom of work, of resources, more peace of mind? Do you think the company's culture shapes the business unit a lot? Or not, is there freedom within it?] “In the business unit, I say no. We can do a lot of work with a lot of flexibility. We have the power and autonomy to make decisions.” (INTERV 02)</p>	<p align="center">Autonomy</p>		
<p>“And then, what is the gain you have with the construction company [client]? The construction company literally opens doors to having this kind of system. Because there is a 354-year-old lady in there, guaranteeing the system”. (INTERV 01)</p>	<p align="center">Brand Strength and Reputation</p>	<p align="center">Resources</p>	<p align="center">Organizational resources</p>
<p>“So GlassPort, worldwide, has research and development centers, among them the research center here in Brazil, which is GlassPort's second largest in the world. So, it is a company highly focused on innovation.” (INTERV 01)</p>	<p align="center">Research and Development</p>		

**Findings**

To develop the lightweight façade BMI, GlassPort made it clear that it is a company with mature dynamic capabilities, as reported below.

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### Sensing

The first step was to sense a novel business opportunity. Peripheral Vision played a key role allowing the company to see beyond the existing business model and to search for opportunities or threats to the *status quo*. Had it remained focused on existing products, it would have perceived only incremental improvements. Sensing came about through the initiative of GlassPort's country manager (CEO) in Brazil, who identified an unmet need at a time when civil construction faced labor shortages:

“In the economic boom, which was around 2013/2014 in civil construction, traditional masonry labor was no longer available in Brazil. That's when our country manager had just developed an important project in Russia, if I'm not mistaken, on lightweight façades. System of lightweight façades. He decided to study the market on that occasion. What were the pains that he perceived at that time? Labor for traditional masonry: not enough. Then the economic boom: the construction companies wanted to grow, but there was no labor available for it” (INTERV 01).

Not only was the Peripheral Vision of the company's chief executive crucial, but also the team's trust in top leadership (a collective belief that the leader has the knowledge to envision a legitimate path) and decision-making autonomy (the country manager did not need to submit his plan to any approval). The existence of these two factors found inductively supports this dynamic capability and reinforce its validity – that is, sensing threats and/or opportunities by top leadership is reflected in concrete actions and the willingness of the team to carry them out. “[If the initiative came from the country manager, did he need any approval?] No. He has the autonomy to do it. The pen is in his hand, he has already gone and already made the change. He started right away building this business model” (INTERV 01).

This initiative not only included a new business opportunity, but also met customers' demands. It is in contexts like this that the Peripheral Vision stands out as an initial lever for BMI. While most interviewees emphasized the country manager's personal role in sensing this opportunity, one had a divergent understanding. This informant stated that the demand for the new solution had been expressed by customers and previously captured:

“Since I started working with this system, we envisioned having this type of façade. We had talked to the technical director [of the client construction company] who said: don't you have a



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façade system here for us? I want to take the block off, I want to take the brick off, I can't do with it anymore. And we started to bring this into the company" (INTERV 03).

Sensing the need to offer more than a new product to the market was also supported by Vigilant Learning. By continuously studying the market and listening to customers, the need to display a competitive differential that stood out from the competition was realized. Although the product for the construction of lightweight façades was not new, the innovation brought by GlassPort was the systemic solution that included a service system. The solution consisted of the material façade encompassing several of the company's products (concrete slab, sheetrock, stone wool coverings, and waterproof fabric, all mounted on a metal structure), and of the service encompassing training, certification, and indication of the partner responsible for the installation, logistics for materials delivery, supervision and follow-up of the assembly. Another evidence of Vigilant Learning is the constant market monitoring process in play at GlassPort:

"Then we entered this housing market. Now, let's go to these bigger buildings. We went for it after system validation, to be able to enter this market. Because we saw that this market is something that still had a lot to develop. It is an almost informal market, those who participated in this market did not have much of a background. As GlassPort does not launch anything without testing, without evaluation, we went after these institutes to be able to enter this market" (INTERV 05).

This characteristic was striking throughout the narrative, what reinforces that Vigilant Learning is present throughout the entire BMI process. Its effects were fundamental for conferring dynamism to organizational capabilities. The innovation carried out by GlassPort relies on a fundamental resource, which is investment in research and development (R&D), in which Brazil is the second largest within the holding group (DOC 1). This resource, also found inductively, is a prominent element for the company. Innovation, in fact, is a repeated "mantra" within GlassPort, which is proud to invest a lot in R&D and to stimulate employees with this *mindset*. This led to innovation being incorporated as an element of organizational culture:

"As [GlassPort] is a company that values innovation, I think it will take off. It will look for other markets and businesses. I believe that this is in the culture, this search for innovation. Innovating not only in products but innovating in the way the service is provided" (INTERV 05).

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Sensing the new business opportunity was thus exercised by the company's top leadership, at the same time that it matched the internal expectation of the employees who worked in the area. In addition to Peripheral Vision, top leadership had decision-making autonomy and relied on the team's trust (elements of the organizational culture). Although the interviewees have divergent versions about the source of the business model opportunity, whether it came personally from the country manager or collectively from other employees, there are indications that a combination of both factors may have been decisive. That is, an attentive Peripheral Vision of opportunities added to Vigilant Learning of market needs. Another finding was that Vigilant Learning seemed to have a strong influence throughout the BMI, stimulating the other dynamic capabilities.

### **Seizing**

When it comes to traditional organizations, the case studied shows that GlassPort did not settle for or interrupt the learning cycle. On the contrary, it continuously absorbed knowledge resulting from its experiences to seize the new business model. Probe and Learn was a fundamental dynamic capability defining what would compose the new business model:

“In this façade market, we had the design thinking approach, so we had several site visits, several conversations with construction companies, visits to customer sites, research institutes, construction companies in general, universities, to hear from them what was necessary. What did they need? What was the system that would meet their needs? Especially, when it comes to construction. We listened to these players. I brought all this information in, and that's when the business took off” (INTERV 05).

GlassPort was focused on defining the product internally and validating it through experiments, both in official and academic research bodies, as well as with potential customers. This effort significantly reduced failures, allowing the solution presented for initial commercialization to have technical and commercial support. Along the same lines, the team reported the tests necessary to justify the financial return of the solution offered:

“The market doesn't understand why this solution is twice as expensive as traditional masonry. How do we manage to sell that? We will only be able to sell it if we link our solution to load

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reduction, we clean up steel rate and concrete rate, so our customer will spend less on structure. If the market could do this study internally, it would be able to see that our product is also viable in terms of cost. Although it is an innovative product, we are head-to-head with the traditional system. At first, we didn't have this number. This study gave us that. This is also a very good sales pitch" (INTERV 04).

GlassPort tested the new business model from various perspectives, whether from quality, time, cost, and service, in order to adjust it to market demands. Continuous learning with each experience was fundamental for introducing continuous improvement. The company treated all feedback as a new opportunity to learn from customers. Other capabilities and resources emerged again during the study. As GlassPort is a centuries-old multinational, the importance of the brand was made evident, as well as the concern for its reputation and background, which could not be damaged by any flawed business model (DOC 01). Brand reputation was a resource used to support development, being used as a testing argument, especially since it is an innovative offer in the domestic market: "And something else is the reliability. Because from the moment you only deliver what is certified, the construction company [customer] is reassured. You have a guy overseeing everything, and the products that come in here are all certified. Credibility is very high" (INTERV 05).

Even though it is an organization with consolidated innovation, the dominant mentality of the traditional business model was evident. This was the main organizational barrier during the transition period from a company that sells products to a company that offers solutions in systems and services:

"[Selling a solution was] a shock. A shock, at first, was a shock (...) This innovation that had been proposed is a process of absolute disruption. Because it's not just a product innovation, it's a business model innovation within the organization" (INTERV 01).

The ability to make Flexible Investing was identified at various instances. The first Flexible Investing made was in relation to the product. Before creating the new business unit (BU henceforth), GlassPort invested in creating a façade solution that could be marketed and had it validated by an independent body. Only with a certified and marketable system in hand did the company work to assemble the independent BU to seize it. Evidence that corroborates this fact is that the manager in charge was invited for this position after the solution certification (INTERV 04). GlassPort took one step at a time,

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reducing the risks of losing money, effort, staff, and time, should any obstacles arise, that could delay the new business. This reinforces the concern for the company's brand and reputation, as previously noted. The Flexible Investing dynamic capability was also made evident during the solution follow-up and verification. The service presented as central to the value proposition of the BMI required a high cost, which was initially absorbed by the company. It was seen as an investment to be passed on to customers in the future: "Today, our service provision is free but, in the future, technical visits will be charged alongside our products. For example, you bought the system, and you will want one visit per week, or two, or three. Today it's free" (INTERV 06).

From the onset, the new BU was concerned with taking small steps to gain market confidence and to validate its solution: "We did the first small task, a little one in Lapa [Rio de Janeiro], to test the business model. Which was like this... It flowed wonderfully well. We had found the way, literally! Now it's time to grow this business and gain scale" (INTERV 01).

The two components of Seizing are identified in an interrelated way in the case studied. Without the ability to acquire and internalize the knowledge of its experiments, as well as redirect the next steps from the results, GlassPort would not have been able to innovate in its business model. Brand strength and company reputation were relevant resources to Seizing.

### **Transforming**

To develop the new business model, GlassPort promoted internal structural changes, as well as established a new external partnership. The creation of the new BU called "Façade" was the first Organizational Redesign action (DOC 1). The initial proposal was not to form a team with full-time dedication, but to use part of the employees' time. This proposal was opposed by the manager who would become the director of the new BU. From the beginning, he had the conviction that a team of his own was needed to ensure focus. Once a BU with an exclusive team was established, it was necessary to establish internal processes for operation, bringing the Façade BU closer to the company's standards.

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With the start of operations, a new barrier was observed internally. The multiplicity of BUs in the GlassPort group meant that there was an internal dispute about supplying the products that would compose each part of the solution of the new Façade BU, what strained the relationship among teams. This led GlassPort to carry out another Organizational Redesign, this time to serve Façade. Five BUs were merged under the same leadership. Again, the company's top leadership acted favorably to the BMI, prioritizing its needs: "Because they joined our GlassPort façade system, five companies of the group joined (...). We understood that the joining of these five companies of the group was necessary to create a dedicated team to begin the development of this market" (INTERV 01).

Since logistics and product control were complex operations, even within the same holding company, the merger of BUs solved this operational challenge of the new Façade BU. Another problem solved was an internal dispute of the other BUs with Façade. At first, employees saw Façade as an internal threat to "capture" revenues, which needed to be clarified. The Organizational Redesign also contributed to improving the BU's communication, knowledge sharing and technical support. In addition, it encouraged Façade's autonomy. This autonomy is presented as an element of the company's culture and was found, in the inductive approach of the study, to be a driving factor for the development of the BMI. Just as top leadership had autonomy to make decisions and sustain the new business, the integration of the teams to leverage the operation weighed positively. Both the experience that employees brought to Façade and the support from other departments made it easier for the new business model to have the technical, financial, commercial, and operational conditions to be carried out:

"In addition to our team, we have a support team from GlassPort which helps us in a fundamental way. It is GlassPort's research team who help us test the products, test the systems, validate the investment that we have in the system. And the marketing team supports sales and helps with branding" (INTERV 02).

The willingness to innovate in the business model came along with the willingness to adapt internally and externally to it. In defining the new value proposition, GlassPort set two standards: the first was the product itself, a structure certified by a recognized research institute and regulatory body; the second was the service, creating a complete solution for customers, something that would become a market

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differential. The product was something “natural” since it was aligned with the existing business model. The service represented a disruption of the company’s commercial and operational culture and, therefore, required a novel External Shaping.

The service encompassed not only the assembly of the façade system, but also worksite follow-up and supervision. Both allowed GlassPort to guarantee the solution’s quality, thus putting together an offering that conveyed safety and efficiency: the product, with the company’s century-old quality; and validated by an independent institute; the service, which gave the guarantee and rested on the company’s reputation. The company produced the lightweight façade, which was assembled by a third-party service provider (called a “partner”). GlassPort trained and certified partners so that they could be responsible for this service at the construction sites that hired Façade, referring them to the customers (construction companies), who were responsible for their hiring and payment. Creating a network with outsourced service providers, training, certifying and referring them to the construction companies was the main External Shaping required to Transforming the BMI. The relationship between Façade and the partner did not end with the hiring by the end-customer. To ensure compliance with deadlines, the solution included product logistics support, a relevant factor for the partner’s success in the construction site. This support became another differential, making partners loyal to GlassPort. Partner loyalty was crucial for the growth of the Façade BU, as the lack of partners was one of the growth limiting factors.

Another External Shaping developed to meet the value proposition was worksite monitoring. It was a service offered free of charge that consisted of a periodic visit to the construction site by a GlassPort employee, in which the progress of the façade installations was evaluated and certified. Worksite monitoring brought value to the three stakeholders: the end-customer had the guarantee of the service provided; the partner had a service validation in time for adjustments; and GlassPort assured that the solution met its quality standards. The follow-up solution also proved to be a good commercial opportunity. Unintentionally, it brought further business opportunities due to the close relationship fostered with end-customers.

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In fact, the transformation implemented by GlassPort to commercialize the Façade BMI had to be done both internally and externally. Organizational Redesign was necessary to meet the external model of partnership and service, and this new External Shaping was a core differential of the value proposition. Another advantage was to allow Façade's team to interact with and manage other teams in the company, focusing only on the sales demands. This allowed the Façade BU to use the structure that GlassPort had, alongside relevant resources to capture value. The empirical evidence collected thus supports the view that the BMI involved in lightweight façade business was an operational success.

### **Discussion**

The present study revealed four important findings: 1) dynamic capabilities should be present in the top leadership; 2) the occurrence of dynamic capabilities is non-sequential and non-linear; 3) dynamic capabilities contribute to competitive advantages in relatively stable markets; and 4) certain resources are important catalysts of BMI results.

#### **The role of top leadership**

The present study documents that dynamic capabilities should be present in the organization's top leadership, as previously noted (Adner & Helfat, 2003; Friedman et al., 2016). While Helfat and Peteraf (2015) realized that strategic investments typically depend on top management's commitment to direct funds and organizational efforts under conditions of uncertainty, Rosenbloom (2000) discovered the positive impact of CEOs on strategic changes, and Schoemaker et al. (2018) stated that strong dynamic capabilities are impossible without top management. This notion was also reinforced by our findings, which suggest that top leadership is essential for a traditional organization to foster dynamic capabilities in the context of BMI.

Two pieces of evidence led to this conclusion: first, the start of the BMI came from the company's country manager – that means that it took a top manager with Peripheral Vision and autonomy to create a

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new BU, direct R&D investments to meet its needs and promote an Organizational Redesign. “Looking back now, 5-6 years ago, it really was an initiative of our country manager. Incredible, what a strategic vision of the company! (...) So it was that guy’s insight” (ENTRV 01). Likewise, the observation that lightweight façade solution was a known opportunity, but it only became a reality after the chief executive’s initiative:

[The director of the Façade BU] was the guy who headed it, and from what he says, I think he may have told you. But when this assignment came: let’s enter the market of large companies. [The country manager] said: let’s enter this market, let’s keep trying. When the [Director of the Façade BU] was called, he said: I will only do it if I have this type of model. Which is the follow-up model. I can’t just sell a product, I can’t just sell a system and not follow-up, because I won’t be able to guarantee performance”. (ENTRV 04).

Second, Organizational Redesign was settled by top leadership (DOC 1) in synergy with other areas of the organization. “At first, I had two sponsors for the project (...) Only a year or so ago, the BUs of the group came together. In the beginning we reported to all four [top managers], today the four companies have merged into one. I’m based under one general director of what he calls Construction Hub” (ENTRV 01).

### **The temporal aspect of the occurrence of dynamic capabilities**

The second finding does not find much prior theoretical support. The occurrence of dynamic capabilities is non-sequential and non-linear, as implied thus far. Dynamic capabilities are described in models didactically appropriate for understanding them (Teece, 2007; Day & Schoemaker, 2016), which suggests that they form up a sequential process. While no explicit statements of a sequential and linear process have been found in the literature, neither has the inverse been found. Framework illustrations do suggest such a sequential and linear order. However, the present study made evident that dynamic capabilities (in various subdimensions) were present at several points during the BMI and were not restricted to closed phases.

Sensing was continuous throughout the BMI. Probe and Learn was carried out in several stages, as well as Flexible Investing, which are intertwined with other dynamic capabilities. An example is that



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the Façade BU was created before the marketing tests. Organizational Redesign happened in more than one stage: first with the establishment of the Façade BU and later with the merger of several BUs (DOC 1). During operation, other flexible investments were made to validate new systems for the new business model. Particularly Vigilant Learning was a dynamic capability present throughout the entire process, even after the consolidation of Organization Redesign. Evidence is the existence of ongoing market monitoring processes, supported by methodologies such as design thinking that were applied beyond the initial phases of product development:

“I see in this business of our façades, we had reached a level, which I believe there was no further room for growth. If we didn’t have something else to offer. In terms of product, we were well settled. In terms of the system, we had validated systems. We needed to somehow make this reach the end-customers, reach the construction company’s desire to have this. We saw, through design thinking and all these interviews, that it was necessary to have a dedicated company structure. We would need to have a system, a defined product and this dedicated structure to take this to the market” (ENTRV 05).

### **Dynamic capabilities in relatively stable markets**

A third finding concerns a situation little explored in theory. Both in the origin (Teece et al., 1997) and in later work (Helfat & Peteraf, 2003; Schreyögg & Kliesch-Eberl, 2007; Day & Schoemaker, 2016; Felin & Powell, 2016), the discussion of dynamic capabilities takes place in Schumpeterian and/or rapidly evolving technological markets. Eisenhardt and Martin (2000) state that moderate markets are those in which change occurs frequently, but along almost predictable and linear paths, in scenarios where dynamic capabilities bring efficiency gains. Helfat and Winter (2011) propose that dynamic capabilities can help companies compete in relatively stable environments, with a focus on non-radical change.

Novel value creation and value capture was documented in the civil construction market, a market considered relatively stable and not very volatile, whose work practices have been in place for decades. Even so, it was possible to report the incidence of dynamic capabilities to promote BMI in an traditional, century-old organization. The interviewees themselves spontaneously dubbed civil construction the “Flintstones system”, referring to the cartoon that takes place during the stone age: “Here in Brazil, we usually say that it is Flintstone’s masonry, so it is super old-fashioned the traditional masonry (...) The

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construction processes are outdated. I usually say that builders can't keep up with their jobs as they age. When the guy turns 40-45-50, as it's a very, very hard job, it's a manual job, he can't keep up" (ENTREV 01).

### **Existing resources are important drivers of BMI results**

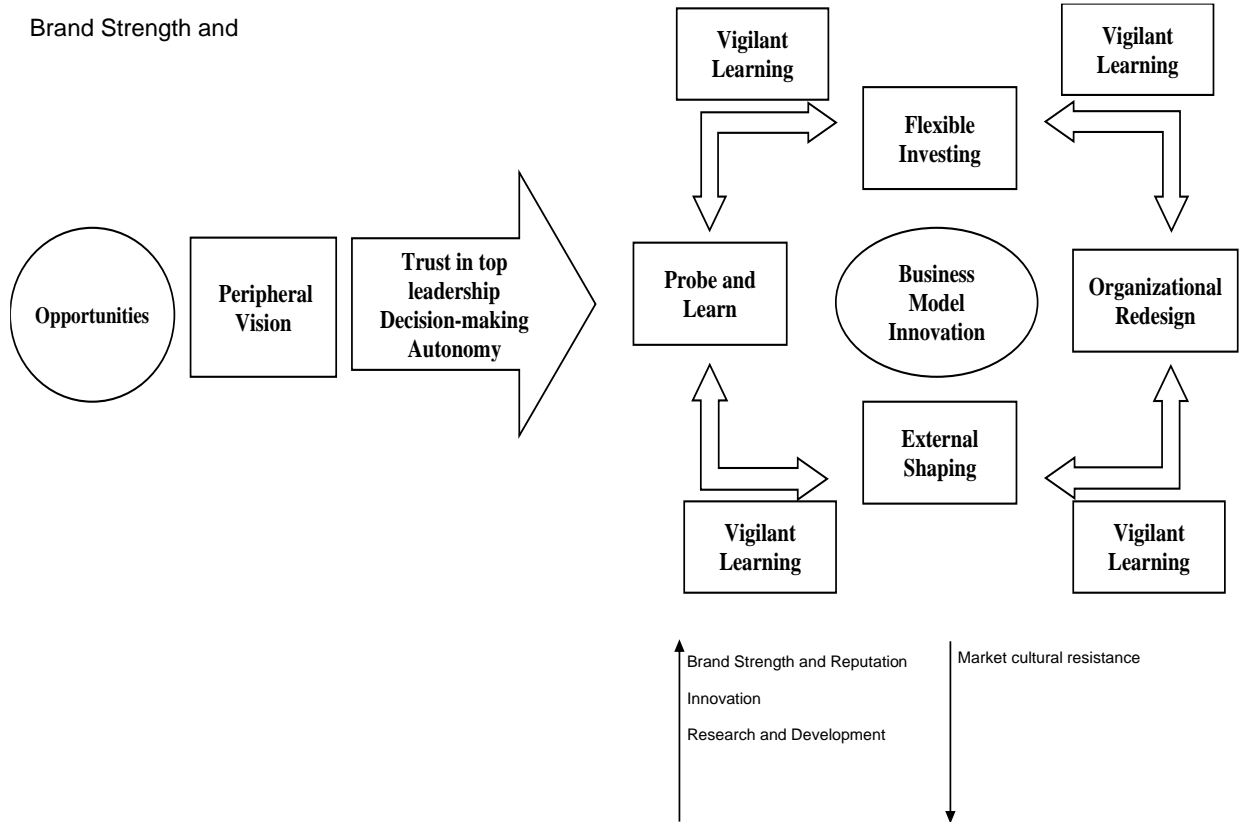
The fourth finding identifies limited support in the literature. Whilst some researchers advocate for a causal relationship by presenting the changes in the resource base as an immediate goal of dynamic capabilities (Danneels, 2008), and that these changes would affect performance (Schilke et al., 2018), no studies were found that examined the role of available resources in the outcome of BMIs. Although the BMI was novel for the domestic market, some critical factors for this innovation stem from resources typical of traditional companies (and often associated with organizational inertia), namely: a) the high level of R&D investments, which enabled the approval of the solution by a research institute; b) brand strength and reputation, which gave support and credibility for the Façade BU to conduct tests and start supplying the market, another differential over competitors. "And what is the gain you have [with our brand] with the construction company? The construction company literally opens the doors to having this type of system. Because she has a century-old lady in there guaranteeing the system" (ENTREV 01).

According to Christensen and Bower (1996), established companies tend to lead innovations when they meet the expectations of current customers. The present study challenges this proposition by indicating that the resources used by the organization for innovation, as well as the receptivity of customers who knew how to hire an innovative solution, from a century-old company.

### **Conceptual framework**

These findings are synthesized in a conceptual framework illustrated in Figure 1, where dynamic capabilities are portrayed as rectangles to differentiate them from other elements.

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**Figure 1.** Conceptual Framework

BMI begins with an opportunity, sensed through Peripheral Vision. Widely regarded the initial process in dynamic capabilities (Teece, 2007), sensing is fostered thanks to trust in top leadership and their decision-making autonomy. Even the best designed dynamic capabilities cannot succeed without seasoned top management support (Day & Schoemaker, 2016). Without the involvement of top leadership, opportunities and threats sensed by other parts of the company would probably not have the same transformational power, as our case study clearly indicates the key role of the country manager. “The [country manager], in fact, brought this idea up. And it was a novelty for GlassPort, because GlassPort has always made and sold the products. There was no service provided” (ENTRV 06).

Our conceptual model suggests that Seizing and Transforming happen in an intertwined fashion in the context of BMI, instead of a linear one where Seizing would precede Transforming. The business

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model development process happens through a constant cycle of Vigilant Learning, present in all stages. Vigilant Learning is portrayed as the most striking sub-dimension of dynamic capabilities because it represents the trial-and-error mindset. It encompasses the constant search for evolution, permanent improvement, and attention to all the capabilities necessary for an organization to adapt its value creation, value proposition and value capture. In the case studied of BMI by GlassPort, direct engagement with end-customers was an on-going “scanning process” that captured detailed information about the interactions with partners, improved understanding of customer’s preferences, and then adjusted the marketing message. For instance, when end-customers questioned the price of the façade solution, GlassPort undertook financial studies as to gather evidence that its solution was price competitive when economies with other inputs (i.e., steel) were taken into account (INTERV 04). Continuous improvement leveraged by Vigilant Learning was documented not only throughout Sensing and Seizing, about also throughout Transforming, and even after the solution had been marketed. As GlassPort deepened its market knowledge, it could notice nascent problems and spot improvement opportunities on a continuous fashion:

“We are in tune with what the market needs. Back to that question of listening to the customer. We are listening to the customer. So, we have two façade systems that are basically made on site. One customer today is asking us: ah, but what if this façade system came ready-made, so that I could hang it up here on the construction site? We have already started a new development regarding this demand, where we are already looking for a solution” (ENTRV 05).

The cycle of BMI development is ignited with Probe and Learn. To seize the newly identified business opportunity, the company probed and invested its capital in a flexible stepwise manner. GlassPort began experimenting with research institutes and regulatory bodies as to gain the industry certificates necessary to operate in this market. Various pilot tests were then conducted in multiple construction sites with end-customers as to learn how to best design the façade solution, decide what features to include, and importantly monitor the competence of partners. The feedback from these experiments was crucial to the Flexible Investing decisions. Such investments were carried out not only during Seizing (for the actual development of the solution and the training of partners), but also during Transforming in the form of subsidies of the technical visits provided by GlassPort and not charged directly to end-users (INTERV 06). In the case, large investments commitments supported the core of the novel value proposition, i.e.,

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the service solution and verification. This dynamic capability allowed the business model opportunity to be explored through relatively small, staged investments and meant limited upfront risk:

“Well, the truth is that we had many doubts. As I told you, a sea never sailed. We didn’t know which direction we were actually going to take. But from the moment we started to seek knowledge, with other experiences, we had this benchmark with other companies in the group outside Brazil, analyzed the competition a little (...) And now we are fighting because our systems are up to more or less 32-33 floors, they are certified. Now we want to build two 45-story towers. We start from scratch again, with the IPT [Institute of Technological Research of São Paulo, regulatory body] tests, because the wind load is different” (ENTRV 01).

Whilst Probe and Learn advances, Organizational Redesign takes place as to accommodate it. Nearly as important strategically as Flexible Investing is the decision to redefine the organizational structure creating a separation between the new venture and the mother company. In the case investigated, this took form of a new BU, as well as of an active engagement with novel external partners. After tests with regulatory body were approved, the Façade BU was established. Vigilant Learning with customers followed in-site experiments, making evident that a new Organizational Redesign had to take place in the form of a merger with five other BUs as to overcome internal hurdles and miscommunication issues. This fundamental organizational shift ensured further flexible and probing investments and provided agility to work with partners for External Shaping. The company remained alert about looking for the changing needs of end-customers, regulators, and partners, as well as about applying insights from the market. “[In the beginning], we thought it was a more individual business. But it’s the other way around. As you end up building customer loyalty by offering this package of services, they [customers] start looking at everything from GlassPort (...) A virtuous cycle. We ended up selling all GlassPort’s products. There were 6-7 million of light façades and another 20 products or so” (ENTRV 01).

From Probing and Learning, making Flexible Investments, promoting Organizational Redesign, to External Shaping, all these steps are fundamental to BMI. They are presented in a cyclical way, as to illustrate that there is a non-linear relation, which does not come to an end:

“[Do you think that at some point the company can incorporate this type of similar BU?]. I think so. It can encompass other BUs or innovate in an existing one. Or create other BUs within the same scope. For example, a BU with technical product lines, who are most likely to get into this business model. An internal wall BU, a vinyl floor BU, a roof BU can be established. As they

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[managers] saw that the model worked, in the future, it has potential. There is no reason not to invest in other businesses of this type. Just start working more on this method. Working more with service is a demand that came from the president of Latin America. It has been mentioned that he has in his head that service will represent a good share of GlassPort's revenues in a few years" (ENTRV 02).

Some identified facilitators act as catalysts of dynamic capabilities necessary for BMI in traditional organizations, such as organizational culture and resources (i.e., brand reputation).

### **Conclusions**

The present study addresses the question of how dynamic capabilities contribute to BMI in traditional organizations. For this, a qualitative case study was carried out with a multinational company, which offered a complete service solution in addition to products.

### **Theoretical and practical contributions**

The present study brings contributions for future research in strategy that takes the dynamic capabilities approach as a theoretical framework. An important theoretical contribution concerns the in-depth description of the nature, role, and purpose of organizational capabilities as core elements of BMI in organizations operating in relatively stable environments, a context that finds little support in the literature, apart from Helfat and Winter (2011) and Soluk et al. (2021). This research extends the existing literature by evidencing the nuances regarding the mechanisms of how Sensing, Seizing, and Transforming foster BMI by facilitating systemic change in a traditional organization.

Another relevant theoretical contribution relates to the temporal occurrence of dynamic capabilities. Existing models induce an understanding that dynamic capabilities are ordered and sequential, as a path to be followed (Teece, 2007). Challenging this understanding, the present study indicates that the dimensions of dynamic capabilities coexist at various times, although there is no direct interaction among their roles. This conclusion can lead to more fine-grained research and to frameworks

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that represent this organizational scenario and facilitate future analysis. In addition, the present study reinforces prior work (Adner & Helfat, 2003; Friedman et al., 2016) highlighting that, without the involvement of top leadership, opportunities and threats sensed by other levels of the company do not have the same transformational power. Finally, our theoretical contribution places the resources of a traditional organization as catalysts for BMI, and not just as sources of organizational inertia as often recognized (Bocken & Geradts, 2020).

In addition, dynamic capabilities are invaluable for organizations seeking to innovate in business models. Therefore, the first practical contribution of the present study is for top managers and those in decision-making positions. As they are the main observers of the external scenario in search of opportunities and threats, sensing them is leadership's task and should not be delegated. Another relevant practical contribution is the attention to the establishment of new internal and external organizational arrangements, with a view to launching innovative business models, even in relatively stable markets, since Organizational Redesign and novel External Shaping can bring competitive advantages that drive value creation.

### **Limitations and suggestions for future research**

All empirical research is subject to restrictive conditions. A relevant limitation is that the present study was not longitudinal but, rather, a cross-sectional data collection that brought past perceptions to the present. Another issue is the historical moment, marked by the global Covid-19 pandemic, which limited data collection and made it impossible to investigate a second case. Future research that compares the role and effectiveness of dynamic capabilities at various hierarchical levels of the organization will be of great value in delimiting the impact they can achieve, depending on where they are located. It is also important to encourage future research to devote more empirical work on dynamic capabilities in relatively stable environments and to compare of the results obtained in various types of business environment.

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Submetido: 04/11/22

Aceito: 16/08/23