What Competitive Advantage in the Era of Generative Artificial Intelligence?

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Abstract. Since its emergence, strategic management has undergone continuous change and disruption. However, the advent of artificial intelligence (AI), and especially generative artificial intelligence (GAI), has brought about an unprecedented upheaval.
GAI is not merely a technological advancement; it represents a major technological rupture capable of profoundly transforming the most fundamental foundations of strategic management, including those related to competitive advantage. It automates complex cognitive activities and accelerates the diffusion of knowledge. As a result, the core assumptions underlying traditional approaches to strategic management are increasingly being called into question.
The objective of this work is precisely to highlight this challenge and to assess its significance. To this end, we will first examine the two dominant frameworks of competitive advantage, namely Michael Porter's positioning approach and Jay Barney's resource-based view. Then, in a second step, we will show how GAI weakens the fundamental postulates of these two approaches. Finally, we will propose the dynamic capabilities approach, developed by Teece, as a more relevant conceptual framework for understanding firm competitiveness in an environment characterized by permanent technological instability, and for developing and sustaining competitive advantage.

Keywords: Competitive Advantage, Generative Artificial Intelligence, strategy.

1 Introduction

The concept of competitive advantage has been at the core of strategic thinking since the seminal works of Michael Porter (1980, 1985). Both in academic settings and in the practices of business organizations, the fundamental objective of corporate strategy is understood as the pursuit and protection of a sustainable competitive advantage—one that enables firms to achieve superior performance relative to their competitors.[9]
In the classical view, cognitive knowledge (such as analysis, content creation, programming, and diagnosis) was accessible only to a limited number of firms. However, the advent of generative artificial intelligence (GAI) has made such knowledge widely accessible, profoundly altering the conditions of competition [1] [3]This "democratization" of knowledge has accelerated strategic imitation and lowered entry barriers, thereby calling into question the sustainability of existing competitive advantages. The classical conception struggles to withstand this new reality: firms increasingly find it

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difficult to preserve their competitive advantages. In this context, a central question arises: to what extent do the traditional approaches to competitive advantage remain relevant in the era of GAI?
The objective of this paper is to address this question. To this end, we adopt an analytical framework structured around three major approaches. We will successively examine Porter's positioning approach, Barney's resource-based view, and Teece's dynamic capabilities approach.

2 The Classical Foundations of Competitive Advantage

2.1 Porter's Positioning Approach

For Michael Porter, competitive advantage stems from the choice of a generic strategy (cost leadership, differentiation, or focus), but it also depends on the firm's ability to select an appropriate position within its industry, to maintain entry barriers, and to protect its position against imitation [9].He also argues that the analysis of the five forces (i.e., industry structure analysis) determines the level of competition and, consequently, the potential for profitability. However, this approach is only valid under two key assumptions: a certain stability of industry structures and a relative inertia in firms' competitive behavior.

This approach therefore focuses exclusively on relative positioning and, as such, faces several limitations that can be summarized as follows. Within the same industry, firms systematically display performance differences. These differences are largely due to internal disparities among firms. By neglecting such differences, Porter's approach not only fails to explain performance heterogeneity but also implicitly assumes that firms are relatively similar in terms of resources, which would grant them comparable capacities to imitate best practices—whereas, in reality, firms are heterogeneous. Moreover, while this approach assumes that imitation is broadly accessible to all firms, it is unable to explain how some firms manage to resist imitation and sustain competitive advantages over time.

2.2 The Resource- and Capability-Based Approach

In response to the limitations of the positioning approach, Barney (1991) proposes an alternative analytical framework. This perspective, centered on the firm's internal resources, adopts an inside view of the firm, in contrast to Porter's outside (industry-based) perspective. According to this approach, known as the Resource-Based View (RBV), the possession of resources and capabilities that are valuable, rare, inimitable, and non-substitutable enables firms to achieve a sustainable competitive advantage.

This perspective encompasses all types of internal resources. However, not all resources have the same strategic potential. For this reason, the RBV places particular emphasis on intangible assets (such as know-how, organizational culture, and routines), whose imitation is difficult [2] [7]and which are most likely to generate sustainable competitive advantage.

With the RBV, the analytical focus shifts from the external environment to the internal characteristics of the firm. In this way, a different explanation of performance

emerges—one that no longer depends on occupying a favorable competitive position within an industry. According to the RBV, firm performance instead depends on its ability to mobilize and deploy its specific internal resources. It is therefore easy to see that this approach rests on the assumptions of resource heterogeneity and imperfect mobility. The RBV thus succeeds in explaining why some firms consistently outperform others and why firms operating in the same industry may follow very different performance trajectories.

3 Generative Artificial Intelligence Undermines Classical Approaches

3.1. The Destabilization of the Positioning Approach

It should be noted that generative artificial intelligence (GAI) fundamentally challenges the very foundations of the positioning approach. Within industries, GAI radically reshapes competitive structures: it reduces the cost of cognitive production, accelerates innovation, erodes entry barriers, and intensifies rivalry among firms[4].

Moreover, the notion of a sustainable strategic position has largely lost its meaning and much of its relevance, as differentiation—so strongly emphasized by Porter and often based on knowledge or creativity—no longer withstands imitation. Such differentiation becomes fragile and easily replicable. Likewise, cost advantages, increasingly neutralized by widespread access to digital technologies, lose much of their strategic significance. [6] argue that digital technologies tend to transform industries into unstable ecosystems in which sectoral boundaries become increasingly blurred.

3.2. The Challenge to Resource Specificity

GAI also profoundly disrupts the resource-based view by striking at its core assumptions. Maintaining the VRIN criteria over time becomes increasingly difficult. Indeed, GAI standardizes and diffuses advanced cognitive knowledge that was once considered rare and valuable but has now become widely and easily accessible [1].As a result, the imitation of resources becomes faster and easier, while their substitutability also increases significantly. In this regard, D'Aveni, Dagnino, and Smith (2010) [5] emphasize that in hypercompetitive environments, advantages based on the possession of specific resources erode rapidly. GAI further accelerates this erosion by dramatically reducing learning times and the diffusion of capabilities.

Faced with this erosion of both strategic positioning and resource specificity, the traditional notion of competitive advantage, as it has long been understood, begins to collapse. Neither competitive position nor distinctive resources are sufficient anymore to generate a sustainable competitive advantage. This is precisely where the dynamic capabilities approach becomes particularly relevant.

4 Dynamic Capabilities as an Alternative Approach

4.1. Theoretical Foundations of Dynamic Capabilities

The concept of dynamic capabilities was introduced by Teece, Pisano, and Shuen (1997). They define dynamic capabilities as a firm's ability to integrate, build, and reconfigure internal and external resources in order to respond to rapid environmental change. It is through dynamic capabilities that firms are able to cope with environments characterized by high technological turbulence. Thus, unlike traditional and static approaches to competitive advantage, dynamic capabilities emphasize the processes that enable firms to integrate, master, and reconfigure resources—namely organizational processes, learning mechanisms, and continuous transformation [11].

In unstable environments, merely possessing valuable resources is no longer sufficient, since a resource that is valuable today may become obsolete tomorrow. What matters most is no longer what the firm owns, but what it is capable of reconfiguring and transforming. Dynamic capabilities therefore encompass learning, innovation, organizational transformation, and strategic decision-making under uncertainty. In this sense, they both extend and go beyond the resource-based view.

Unlike traditional approaches, dynamic capabilities help explain why some firms adapt and survive while others—despite being well endowed with resources—fail. They are particularly relevant in technology-intensive industries, highly competitive markets, and uncertain or turbulent environments.

Competitive advantage no longer stems from stability, as suggested by the positioning approach, but from the ability to change faster and more effectively than competitors.

4.2. Dynamic Capabilities in the Era of Generative AI

Generative artificial intelligence accelerates strategic cycles and shortens the lifespan of competitive advantages, thereby making the dynamic capabilities approach even more relevant. This framework defines strategic performance as a firm's ability to sense opportunities and threats, seize opportunities rapidly, and continuously reconfigure (or transform) its resources and capabilities [11]. The central issue is therefore no longer the possession of specific resources, but rather the ability to recombine, adapt, and renew them more quickly than competitors.

Thus, in the era of GAI, competitive advantage is no longer a stable position within an industry, nor a lasting state based on the ownership of specific assets. Instead, it becomes a temporary and renewable phenomenon, sustained by the organization's capacity to adapt more rapidly than its rivals.

5 Conclusion

The advent of generative artificial intelligence (GAI) calls for a critical reassessment of the classical approaches to competitive advantage. Although the traditional frameworks developed by Porter and Barney continue to offer strong analytical value, they remain insufficient for capturing the dynamics of contemporary competition. In this regard, the dynamic capabilities approach appears to be the most appropriate not only for explaining current competitive dynamics but also for providing a conceptual framework better suited to understanding competitiveness in an environment characterized by rapid innovation, accelerated knowledge diffusion, and the growing commoditization of cognitive resources.

In the era of GAI, competitive advantage is no longer defined by durability, but rather by the ability to continuously renew itself. From this perspective, it is not GAI per se that creates differentiation among firms, but rather the firms' own ability to effectively deploy, integrate, and leverage GAI within their organizational processes and strategic decision-making.

For citations of references, we prefer the use of square brackets and consecutive numbers. Citations using labels or the author/year convention are also acceptable. The following bibliography provides a sample reference list with entries for journal articles [1], an LNCS chapter [2], a book [3], proceedings without editors [4], as well as a URL [5].

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