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Revisiting speed of imitation from a competitive dynamics perspective

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ABSTRACT

Imitation—the process of reproducing other firms' products, processes, technologies, or strategic decisions in general—is a salient theoretical construct in the strategic management literature. Moving beyond the "one imitation strategy" assumption, some studies have focused on "how quickly" firms imitate, describing the speed of imitation (SoI) as a key source of "fast-mover advantages." However, research on SoI has primarily developed in an isolated fashion across multiple subfields of strategic management, leading to a variety of theories, methodologies, and mixed findings that hinder the comprehensive understanding of SoI research. Against such a backdrop, this review leverages competitive dynamics research to (a) conceptualize SoI both as the velocity dimension of the imitation process and as a specific type of competitive response by identifying its necessary conditions, (b) integrate current knowledge on SoI by shedding light on its antecedents and outcomes, resulting in a process model that organizes these factors systematically, and (c) use this presented process model to identify research gaps and mixed findings in the existing literature, thus opening avenues for future research.

1. Introduction

Imitation is a prominent theoretical construct in strategic management due to its significant implications for firm performance, competitive dynamics, and industry evolution (Lieberman and Asaba, 2006; Ordanini et al., 2008; Posen et al., 2023). Central "in the context of the resource-based view, knowledge spillovers, diffusion, and recombination, among many others" (Posen et al., 2023, p. 75), imitation strategies are means through which firms maintain competitive parity or mitigate uncertainty by relying on those rivals perceived as possessing superior information (Lieberman and Asaba, 2006). In this perspective, imitation can be conceptualized as a distinct type of competitive response, characterized by the deliberate and strategic replication by a focal firm of a specific "object"—that is, an element of strategic behavior—originally adopted by one or more target rivals.

Building on such premises, scholars have long studied imitation under the "prevalent assumption" that "there is only one imitation strategy" (Posen et al., 2023, p. 75), thereby overlooking the nuances that distinguish the multiple modes of imitation. Moving beyond the overly simplistic assumption of "one imitation strategy" in favor of the "many different imitation strategies assumption, which states that imitation is not a binary yes-no decision" (Posen et al., 2023, p. 93), scholars have highlighted the importance of focusing instead on a broader set of imitative decisions, including the *speed of imitation* (SoI) (e.g., Markides and Geroski, 2004). Indeed, as Posen et al. (2023) recently note, "recognizing that practices and technologies follow a developmental trajectory, firms not only need to decide whether or not to imitate, but also whether to move early or late after innovations are introduced" and "the speed of imitation decisions has been shown to have important strategic consequences" (p. 89).

In today's hypercompetitive environments (Bergek et al., 2013; D'Aveni et al., 2010), the speed with which firms respond to rivals' competitive actions has gained strategic relevance. This relevance is amplified in high-velocity industries, where compressed decision windows and fleeting market opportunities render delayed responses increasingly costly, and where the capacity to act quickly contributes directly to organizational learning, adaptation, and positioning (Dykes et al., 2019; Kolev et al., 2025). Against this backdrop, SoI has been described as a source of "fast-mover advantages" (Pacheco-de-Almeida et al., 2015, p. 174), involving both potential benefits and risks (Ethiraj and Zhu, 2008; Giachetti et al., 2017; Lee et al., 2000). It thus warrants closer attention as a specific type of competitive response—shaped not only by timing and execution, but also by strategic intent and contextual contingencies.

However, the concept of SoI is not new. As Theodore Levitt already noted nearly 60 years ago:

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"Since in so many industries the survival and growth of individual companies dictates that they at least quickly imitate the innovator's new products, and since the speed of competitive imitation tends so quickly to cut the margins available to all competitors, the speed with which an imitator enters the market is crucial" (Levitt, 1966, p. 65).

Levitt (1966) foresaw that SoI, broadly defined as how quickly a firm intentionally reproduces another firm's products, processes, technologies, or strategic decisions more in general, would increasingly become a key competitive response for firms in many industries to outperform rivals. A few years before Levitt's publication on the performance implications of SoI, Edwin Mansfield was the first to recognize the importance of understanding what determines the speed at which firms strategically imitate each other, that is, the antecedents of SoI (Mansfield, 1961). In this vein, since the works of Mansfield (1961) and Levitt (1966), a subarea of studies on imitation has highlighted that to understand the sources of a firm's sustainable competitive advantages, we should not only look at imitation per se, but at its *speed* in particular (e.g., Makadok, 1998; Pacheco-de-Almeida, 2010).

Despite documented interest in the study of SoI, research on SoI has been scattered across multiple streams of the management literature, hindering an integrative view of the phenomenon. In fact, to date, scholars have advanced our knowledge of the antecedents and outcomes of SoI by drawing on market entry (e.g., Ethiraj and Zhu, 2008), technological change (e.g., Sinha and Noble, 2008), first-mover advantages (e.g., Lee et al., 2000), the resource-based view (e.g., Carow et al., 2004), competitive dynamics (e.g., Haleblian et al., 2012), and the institution-based view (e.g., Jonsson and Regnér, 2009). Moreover, conceptual boundaries about SoI are often taken for granted or overlooked. For example, SoI has been often studied as a single-phase event—a one-time decision to replicate a rival's move—whose velocity is shaped by firm-level factors such as resources and capabilities, and industry-level conditions such as competitive intensity. This prevailing view, grounded in perspectives like the resource-based view and market entry (e.g., Carow et al., 2004; Gielens and Dekimpe, 2007), tends to overlook the sequential and processual nature of SoI. In contrast, we frame SoI as a multi-phase process that unfolds over time and across decision points—from recognizing a rival's move to evaluating the focal firm's motivation and capability to imitate at a particular speed—each phase shaped by distinct antecedents and time lags. This process can be accelerated or decelerated by the same firm- and industry-level factors, ultimately influencing strategic and performance outcomes. Likewise, the intentionality behind the SoI is rarely questioned (Gaba and Terlaak, 2013), and thus, we still lack conceptual clarity on the phenomenon, as, for instance, managers "often mistake innovation for what is really imitation" (Levitt, 1966, p. 69).

In response to the absence of an integrative view on SoI, in this study, we adopt a competitive dynamics lens to achieve three objectives. First, we conceptualize SoI both as the velocity dimension of the imitation process and as a distinct type of competitive response, identifying its specific necessary conditions. Second, we leverage the *awareness-motivation-capability* (AMC) framework of competitive dynamics (Chen, 1996; Chen and Miller, 2012) to review and integrate studies on the antecedents of SoI, enhancing our knowledge of how a focal firm's awareness of rivals, motivation to respond, and capability to act drive slow or rapid imitation. Third, we apply the *action-reaction* perspective of competitive dynamics (Ferrier et al., 1999; Smith et al., 1991), commonly referred to as "action sequence" studies, to examine how the velocity of the imitation process—reflecting both how quickly managers can complete the replication of rivals' actions and whether they choose to postpone or accelerate the beginning of the imitative action—impacts both strategic and performance outcomes.

Overall, this paper offers a threefold contribution. First, it clarifies the concept of SoI as a specific type of competitive response that requires (i) a would-be imitator, (ii) a target of imitation, (iii) imitation within industry boundaries, (iv) an object of imitation, and (v) an *imitation lag*. Second, drawing on competitive dynamics research, our study offers a novel approach for understanding the drivers and outcomes of SoI. We develop a process model that, on the one hand, utilizes the three dimensions of the AMC framework to enhance understanding of how organizations *perceive*, *are motivated by*, and *are capable of* quick imitation; on the other hand, by employing the action-response perspective of competitive dynamics, we shed light on how the SoI decision, once made, influences *strategic* and *performance* outcomes. By framing SoI as a multi-phase decision, we respond to recent calls in the competitive dynamics literature to expand our understanding of imitation processes by bridging "counterparty awareness, motivation, and capability" with "work in competitive dynamics that has studied the characteristics of firm action sequences and their effects" (Sharapov and MacAulay, 2022, pp. 154–155). Third, our analysis reveals mixed findings in the current body of literature, underscoring the complex nature of SoI. Based on the presented model, we propose avenues for future research.

2. Theoretical foundation: competitive dynamics

The competitive dynamics literature is highly relevant to strategy, offering an actionable framework for analyzing how rivals compete (Chen, 1996; Ferrier et al., 1999; Smith et al., 1997). Scholars in this field focus on the actions and reactions between rival firms, emphasizing the strategic interplay that unfolds over time (for reviews on this field, see Chen and Miller, 2012, 2015). As one of the few areas in strategy that inherently adopts a longitudinal, dynamic view of competition, it provides insights into the evolving nature of rivalries.

This study is grounded in three key tenets of the competitive dynamics literature. First, we draw on conceptual advancements in this field to clarify the concept of SoI, examining it as (a) the *velocity dimension of the imitation process* and (b) a *specific type of competitive response*, as we will explain in greater detail in the next section. Regarding the first conceptualization of SoI—namely, the velocity dimension of the imitation process—much of the existing literature treats imitation as an isolated one-time act, triggered and constrained by factors internal to the firm (such as resources and capabilities) and by external pressures, notably the level of competitive intensity in the industry and environmental uncertainties (e.g., Lieberman and Asaba, 2006). We, instead, describe imitation as a process in which managers may be capable of or intend to imitate immediately, or may be constrained or choose to wait, thereby postponing the imitation process. This framing highlights that the importance of *when* to imitate, which is the essence of SoI, can be shaped in two main ways. First, *execution time* may differ across firms once the decision to imitate has been made (Pacheco-de-Almeida, 2010). This capability-based component relates closely to a firm's ability to compress processual lags across operations and to deploy the skills required for rapidly replicating others' actions (Jonsson and Regnér, 2009; Ross et al., 2023). For example, in the mobile phone industry, a firm with extensive in-house design capabilities may be able to replicate a competitor's new smartphone feature within months, whereas a resource-constrained rival might take years. Second, managers may *delay or hasten the imitation process*—the decision-based component—influencing the overall timing of imitation (Ethiraj and Zhu, 2008; Lee et al., 2000). For instance, on the one hand, "if product innovation is costly, then firms may prefer to wait and watch rather than race to the market since competition is based on product quality that cannot be costlessly imitated" (Ethiraj and Zhu, 2008, p. 799); on the other hand, other firms can speed up imitation with the aim of "adversely affect[ing] the durability of the first mover advantages by sharing and/or reducing their potential profits" (Lee et al., 2000, p. 23).

Regarding the second conceptualization of SoI—namely, a distinct type of competitive response—scholars emphasize that competitive responses are not uniform and can vary in both timing and form of execution. For example, Kolev et al. (2025), in their recent review of studies on decision, implementation, and response speed, have noted that firms may take different amount of time to respond to competitive challenges, with *response speed* defined as "the speed with which

Table 1
Conceptualizing speed of imitation from a competitive dynamics perspective.

Dimensions characterizing a competitive response executed at a certain speed	Accidental isomorphism (quick or slow)	Diffusion (quick or slow)	Imitation outside the competitive context (quick or slow)	Non-imitative response (quick or slow)	Imitation as a binary choice	Imitation undertaken at a certain speed (quick or slow)
Intentionality (*whether* the action is a response)		X	X	X	X	X
Target of the response (*who* to respond to)	X		X	X	X	X
Industry boundaries (*where* to respond)	X	X		X	X	X
Object of the response (*what* to respond to)	X	X	X		X	X
Response lag (*when* to respond)	X	X	X	X		X
Emerging necessary conditions for qualifying SoI	Despite the object introduced by the target being replicated by the focal firm, the focal firm is not a **would-be imitator**. Involuntarily, the focal firm replicates what another intra-industry rival has done, but imitation happens by chance.	The absence of a clear **imitation target** turns the imitation into the emulation of an object introduced by ambiguous first movers (e.g., the adoption of an industry standard), resulting in its diffusion without a specific benchmark to guide imitation decisions.	Imitating a target from outside the industry does not constitute a competitive response to that target. When a focal firm, instead of pursuing **imitation within industry boundaries**, selects an extra-industry target for imitation and becomes the first in its industry to do so, its imitative effort represents a pioneering move from an intra-industry perspective.	To be considered imitation, the response must involve a comparable object type, that is, the **object of imitation**. In other words, the object introduced by the follower must align with the one introduced by the target. The lack of comparability between the two objects results in a generalized, non-imitative response.	The absence of a measured **imitation lag** permits only a binary assessment of whether an imitation strategy is present. It does not allow for evaluating the speed at which the imitation strategy is executed and its strategic implications.	The specific competitive response—whether quick or slow—qualifies as SoI because all five necessary conditions are satisfied: (i) the focal firm acts as a would-be imitator, (ii) the imitative response is directed at a clear target, (iii) the imitative response occurs within industry boundaries, (iv) the imitative response involves an object that is imitated, and (v) it is executed with a measurable imitation lag.

responses to competitive stimuli are executed and reflects the elapsed time between an initial action in the environment and a subsequent response from the focal firm" (Kolev et al., 2025, p. 41). In other words, response speed is the time taken to respond when a reference target that initiated a competitive attack is clearly identified. Smith et al. (1991) predicted that firm-level characteristics, such as external orientation, structural complexity, slack, and managers' education and experience, would have the same effects on a firm's response as a binary choice (i.e., yes-no) and response speed.[1] However, the authors found inconsistent results. Moreover, they observed that response as a binary choice and response speed have opposing effects on firm performance. These findings underscore the complexity of competitive responses, suggesting that different dimensions of response behavior—binary choice and speed—have distinct antecedents and can lead to different implications for firm outcomes. Similarly, Chen et al. (1992) observed that certain competitive-level factors, such as the competitive impact of an action and its attack intensity, influence the number and speed of responses in different ways. Likewise, Smith et al. (1997) observed that a firm's action volume and speed of response to rivals were not significantly correlated. These findings highlight that firms that undertake more competitive actions—and are more likely to undertake a given action type—are not necessarily those that respond more rapidly to rivals. Importantly, this distinction implies that imitation as a deliberate competitive response differs from more general forms of resemblance between firms, such as diffusion or accidental isomorphism, which take place without an explicit response to a competitor. As we will discuss later when conceptualizing SoI, the idea that action as a binary choice and action speed are distinct constructs also applies to imitation.

Second, as Chen and Miller (2012, 2015) observed when reviewing the AMC framework's central role in understanding competitive actions, "a better prediction of competitive dynamics behavior is obtained by incorporating simultaneously all AMC components" (Chen and Miller, 2012, p. 167). Consistently, we utilize the AMC framework to structure research on the antecedents of SoI. Applying the AMC framework to the SoI involves examining how each of its components—awareness, motivation, and capability—relates to the rapidity with which a firm can and does imitate others. The extent to which a firm is aware of a specific object and target for imitation and is cognizant of the environment in which this imitation occurs are key determinants of its SoI. Indeed, greater *awareness* allows firms to promptly recognize opportunities or threats posed by earlier movers, thereby influencing the timing of their imitation strategies (e.g., Gimeno et al., 2005). Also, the decision to imitate at various speeds can vary based on multiple *motives*. For example, Lieberman and Asaba (2006) group motives for imitation into information-based and rivalry-based motives. Rivalry-based motives emphasize how firms imitate rivals to maintain competitive parity, while information-based motives posit that firms resort to imitation to manage uncertainty in their operating environments. Moreover, a firm's *capability* to imitate rapidly could be enhanced by internal factors, such

[1] The authors used response lag instead of response speed, so in their regression analysis the coefficient sign should be interpreted in the opposite direction (i.e., longer response time corresponds to lower response speed).

as the firm's own resources, or external factors, like structural barriers, that negatively affect the firm's capability to pursue quick imitation (e.g., Jonsson and Regnér, 2009).

Third, once the decision to imitate at a certain speed is made, research in competitive dynamics suggests that this decision, initially a reaction to a pioneering behavior, continues along an *action-reaction* path (Ferrier, 2001; Giachetti et al., 2017). This perspective introduces the idea that a firm's performance and strategic decisions are dynamically shaped by the moves of its rivals. Competition, therefore, is best understood not as a fixed state but as an evolving interplay of actions and responses among firms, each influencing industry performance. Ferrier et al. (1999) emphasize the dynamic nature of competitive actions and the ongoing sequence of responses that follow pioneering behavior, noting that rivals are locked in an "incessant race to get or to keep ahead of one another" (Kirzner, 1973, p. 20) to maintain their competitive positioning. They argue that "newly created actions" pose a threat to rivals, and "this threat forces new actions on the rivals' part, which further disturb the status quo" (Ferrier et al., 1999, p. 373), illustrating a self-perpetuating and dynamic action-reaction cycle (Smith et al., 1991). This cycle is key to understanding firm performance in dynamic environments (Giachetti et al., 2017). These insights suggest that once the decision to imitate at a particular speed is made, it influences subsequent strategic responses and performance for both the imitator and its rivals.

Building on these three tenets, the next sections proceed as follows. First, we conceptualize SoI and identify its necessary conditions (Section 3)—criteria that also guide the inclusion and exclusion of studies in our review (Section 4). Next, we apply the AMC framework to examine the key drivers of SoI (Section 5). Drawing on the action-reaction perspective, we then integrate findings on the outcomes of SoI (Section 6), before concluding with an in-depth discussion (Section 7).

3. Conceptualizing speed of imitation: five necessary conditions

We contend that SoI is best understood within the broader context of competitive dynamics, where it serves both as the *velocity dimension of the imitation process* and as a specific type of *competitive response*. SoI reflects the velocity at which a firm emulates a competitor's actions—encompassing both how quickly it can complete the replication of those actions and whether it chooses to postpone or accelerate the start of imitation—setting it apart from more general forms of imitation. Drawing on the competitive dynamics literature (Chen and Miller, 2012, 2015; Smith et al., 1991, 1992), we identified five dimensions useful for qualifying a competitive response executed at a certain *speed*, as detailed in the online Appendix A. These dimensions are: the intentionality behind the response (the response must be a deliberate decision by the firm), the target of the response (there must be a clear competitor the response is directed toward), the response's occurrence within industry boundaries (the response must occur within the same industry as the target's initial action), the object of the response (the object must be identifiable), and the response lag (it should be possible to measure the time elapsed between the initial action and the response).

These dimensions were contextualized to identify the five necessary conditions that qualify SoI: (i) the presence of a would-be imitator, (ii) the target of imitation, (iii) the imitation's occurrence within industry boundaries, (iv) the object of imitation, and (v) an imitation lag that distinguishes SoI from the simple binary decision of whether to imitate or not. These conditions, schematically represented in Table 1, follow a strategic imitation logic—that is, they reflect the key decisions a firm makes when imitating a rival: the intentionality of the would-be imitator reflects *whether* the firm has deliberately considered to imitate, the target of imitation reflects *who* to imitate, industry boundaries reflect *where* to imitate, the object of imitation reflects *what* to imitate, and the imitation lag reflects *when* to imitate. While the broader literature uses diverse terminology and conceptual boundaries, our aim was to bring coherence by isolating studies that, at a minimum, engage with imitation behavior that is intentional, directed at a specific target, confined within industry boundaries, concerned with a discernible object, and characterized by a time lag. Ideally, studies included in our sample satisfy all five criteria—that is, those listed in the rightmost column of Table 1. Below, we elaborate on each condition.

3.1. Would-be imitator

The first condition for SoI is the deliberate involvement of a would-be imitator—a focal firm[2] that deliberately decides to replicate a strategic action, product, process, or technology introduced by a rival firm (Posen et al., 2023) at a certain speed. In the imitation literature, Gaba and Terlaak importantly note that "imitation, as driven by observational learning, entails a considerable level of deliberateness" (p. 16). Indeed, the deliberateness differentiates SoI from accidental or involuntary (rapid or slow) imitation, where replication occurs without strategic intent or awareness. Therefore, the would-be imitator reflects an intentional, strategic choice, driven by the recognition that emulating certain behaviors or innovations at a certain speed can yield competitive advantages. Unlike market adaptation or isomorphism driven by external pressures, SoI involves an active, calculated decision to imitate at a particular speed. Lieberman and Asaba consistently underscored the need of "distinguishing imitation from other types of isomorphism" (p. 376). Thus, isomorphism is not necessarily imitative, as firms may take the same action, for example, to "respond independently but identically to a common environmental shock" (p. 376).

3.2. Target of imitation

The second condition is the identification of a clear target of imitation (Posen et al., 2020; Sharapov and Ross, 2023). Indeed, as Sharapov and Ross (2023) put it, "the choice of imitation target matters and should take the competitive environment into account" as "alternative targets of imitation shape the likelihood and magnitude of performance" and strategy outcomes (pp. 312–313). From this competitive dynamics perspective, a target refers to the specific, direct rival (or more than one) whose actions the imitator seeks to replicate at a certain speed. This directedness is what distinguishes SoI from phenomena such as diffusion of innovations or industry standards, where replication occurs in response to generalized trends rather than a specific rival (e.g., Funk and Methe, 2001; Smith et al., 1992). It enables the firm to calibrate its response speed relative to the competitive stimulus triggered by that rival (Kolev et al., 2025). By identifying a target, the would-be imitator aligns its actions with those of a specific competitor, allowing for a direct comparison and strategic positioning relative to that competitor's market behavior. As noted by Posen et al. (2023), "strategic imitation is quite distinct from diffusion" (p. 79), as "the diffusion of an object (e.g., practice, process, or technology) is one potential outcome of imitation" (p. 78). A clear definition of the target enables the imitator to tailor its response speed to the competitive threat or opportunity posed by that specific rival.

3.3. Imitation within industry boundaries

The third necessary condition for SoI is that imitation occurs within the boundaries of an industry (Cappelli et al., 2014), holding the assumption that "competitors are defined here as firms operating in the same industry, offering similar products, and targeting similar

[2] By "focal firm," we always refer to the imitator.

customers" (Chen, 1996, p. 104).[3] Thus, viewed through the lens of competitive dynamics, it is crucial that the target of imitation is specifically "within [the same] industry" context as the imitator (Smith et al., 1997, p. 150), as this defines the competitive landscape and sets the stage for strategic interactions. The actions of the intra-industry target act as a catalyst, prompting the would-be imitator to strategically decide how and when to replicate the innovation, thereby shaping the SoI. This distinction is critical, as it differentiates SoI from the imitation of extra-industry targets—firms that operate in different contexts, offer different products, and target different customers—where the dynamics of competition, benchmarks, and strategic implications may differ substantially from the imitator's industry. For example, as Frankenberger and Stam (2020) suggest, a focal firm imitating a business model from outside its industry involves learning from those who "pioneered the business model in other markets" (p. 3) and from other industries, thereby encountering competitive threats distinct from those in the target's industry.[4] Therefore, this form of imitation is not a competitive response by the focal firm against the imitated target firm, as the two operate in distinct industries. Instead, the focal firm leverages the imitated object as a pioneering, competitive action within its own industry. In this way, the influence of the intra-industry target is key, as it aligns the competitive response directly with the specific market pressures and opportunities faced by the imitator within its own industry context.

3.4. Object of imitation

"Equally important [in the imitation literature] is the choice of the object of imitation" (Posen et al., 2023, p. 89). The object of imitation refers to the specific element introduced by a target rival being replicated at a certain speed. In the words of Lieberman and Asaba (2006), "firms imitate each other in the introduction of new products and processes, in the adoption of managerial methods and organizational forms, and in market entry and the timing of investment" (p. 366). This fourth necessary condition emphasizes that imitation is not a generalized competitive response to any type of competitive stimulus (Kolev et al., 2025), but is directed toward an object that will be replicated. To distinguish imitation from other types of competitive responses, it is essential to evaluate the comparability between the object introduced by the target (i.e., the first mover) and the object introduced by the focal firm (i.e., the follower), ensuring that the follower's response aligns with the first mover's action. Comparability refers to the degree of alignment between the object introduced by the target and the object replicated by the focal firm. As emphasized by Smith et al. (1992), imitation requires that the follower's response mirrors the core strategic feature of the target's action—for instance, "a price cut in response to a price cut" qualifies as imitation, whereas "a price cut in response to a new product introduction" does not (Smith et al., 1992, p. 38). In empirical studies, authors have typically assessed object comparability by focusing on specific types of innovations or strategic moves first introduced by a pioneering firm and subsequently adopted by others. For example, Lee et al. (2000) identified a series of innovations in the U.S. long-distance telecommunications, personal computer, and brewing industries, and computed SoI as the time it took each firm to adopt a given innovation after it was pioneered by an industry rival. Giachetti and Lanzolla (2016) examined several new product technologies in the UK mobile phone industry. For each technology introduced by a first mover—such as Bluetooth by Ericsson—they recorded the number of months it took for rival firms to incorporate the same technology into one of their handset models. Similarly, Henisz and Delios (2001), in their study of foreign market entry strategies by Japanese multinationals, assessed each firm's portfolio of foreign manufacturing locations and captured the time lag between first-moving rivals' initial establishment of a plant in a new market and the focal firm's subsequent entry into the same market.

3.5. Imitation lag

The fifth necessary condition does not simply concern the assessment of a measurable response lag, that is, "the temporal difference between the dates of a specific competitive action and the response" (Smith et al., 1992, p. 39), but rather an imitation lag, that is, the amount of time it takes a firm to *imitate* a competitor's action. This is what fundamentally distinguishes SoI from other forms of imitation, and allows researchers to capture the nuances beyond the "one imitation strategy" assumption (Posen et al., 2023). *Speed* refers to the temporal aspect of the imitative response—how quickly the imitator acts following the pioneer's initial action (Ethiraj and Zhu, 2008; Giachetti et al., 2017; Lee et al., 2000; Pacheco-de-Almeida, 2010). This element is critical because it reflects a strategic choice about timing, where being quick or slow can significantly impact the outcomes of the imitation effort.

Crucially, assuming that studying SoI produces the same insights as analyzing imitation as a binary choice risks significant oversights. Grouping fast and slow imitators together obscures key distinctions in strategic motivation, risk-taking behavior, intrinsic speed capabilities, and performance outcomes. These dimensions only become apparent when imitation is examined through the lens of speed, which offers a more nuanced understanding of competitive behavior. We discuss these key distinctions below:

Strategic motivation and related positioning. SoI reveals how firms are motivated to act to differentiate themselves through the speed at which they respond to a pioneer's moves. Rapid imitators often aim to emulate the success of first movers, capitalizing on early market gaps to secure strategic positioning advantages (Makadok, 1998). By acting swiftly, they achieve a unique form of differentiation, setting themselves apart from slower imitators who may struggle to gain comparable market traction. Thus, SoI offers a richer understanding of strategic positioning, illustrating how timing itself can create a competitive edge—a nuance that binary models fail to capture.

Risk-taking attitude. SoI also captures varying levels of risk-taking among firms, an essential strategic consideration that binary models overlook—particularly in today's hypercompetitive and dynamic environments (D'Aveni et al., 2010). Rapid imitation often involves significant uncertainty and requires a readiness to act without extensive market data. Firms that choose to imitate sooner demonstrate a greater propensity for risk-taking, betting on early adoption's potential rewards despite the unpredictability. This readiness to act under uncertain conditions sets fast imitators apart from slower, more cautious firms (Ethiraj and Zhu, 2008). The SoI thus signals distinct risk tolerance levels, which binary models miss.

Intrinsic speed capabilities. SoI highlights the essential capabilities required for swift imitation. A firm's ability to respond quickly often reflects greater operational agility, adaptability, and resource mobilization—traits that demand strong internal processes and resource allocation—referred to by authors as "intrinsic speed capabilities" (Pacheco-de-Almeida et al., 2015, p. 159). "The idea of intrinsic speed capabilities relates to how firms differ in their ability to compress time" (Ross et al., 2023, p. 1343). In this perspective, fast imitators exhibit these capabilities by deploying resources rapidly and effectively in response to new opportunities. Examining the velocity of imitation

[3] Although the assumption that competitive responses are undertaken within industry boundaries has been employed by competitive dynamics scholars and the broader strategy literature, both theoretically and empirically, we acknowledge that "an industry is usually composed of many markets and that each market may be served by different strategies" (Chen, 1996, p. 105).

[4] Frankenberger and Stam (2020) observed that ventures employing extra-industry business model imitation often achieve competitive differentiation by "importing business models from different sectors." This action allows them to "achieve higher growth by locking in their customers, suppliers, and partners" (p. 3), owing to the novel alignment of the adopted business model with their unique industry.

provides insights into these differential capabilities among firms, insights that a simple "yes or no" model would miss. The binary approach often clusters firms as either pioneers (innovators) or imitators, thereby overlooking the intrinsic speed capabilities that enable faster followers to operate similarly to pioneers, in both capabilities and positioning goals, more closely than they do to slower imitators.

Performance implications. SoI can drive different performance outcomes, especially in fast-changing environments. "Fast-mover advantages" (Pacheco-de-Almeida et al., 2015) sometimes enable firms to outperform first movers, capturing unique strategic benefits through rapid imitation. Rapid imitators may seize early advantages over lagging imitators, allowing them to establish temporary competitive advantages. However, while faster imitation presents the potential for early rewards, it also bears inherent risks; as the firm moves quickly, it risks acting without the benefit of hindsight and may incur costs related to premature market entry. By not treating imitation simply as a binary choice, SoI emphasizes the opportunity-risk trade-offs firms must make when opting to imitate quickly versus cautiously.

All in all, the fulfillment of the five conditions presented in this section (and illustrated in Table 1) allows us not only to conceptualize SoI as a specific type of competitive response, but also to distinguish SoI from imitation as a binary choice and from response speed more generally. Unlike imitation as a binary choice, SoI entails a response lag (i.e., speed). Unlike response speed more generally, SoI requires a specific object of imitation. This means that, unlike imitation in general, the temporal dimension of SoI goes to the core of the imitation process. Viewed through the lens of competitive dynamics, SoI reflects a firm's decision about *when* to undertake the act of imitation, reflecting both the velocity with which it is *capable* of replicating a rival's actions (Jonsson and Regnér, 2009) and the *choice* to delay or accelerate the initiation of imitation of such actions (Ethiraj and Zhu, 2008).

4. Method

4.1. Inclusion/exclusion criteria

Building on the five necessary conditions outlined in the previous section, we offer a definition of *SoI from a competitive dynamics perspective*—one that isolates it from imitation as a binary choice (Lieberman and Asaba, 2006) and from general response behaviors (Kolev et al., 2025): *the velocity at which a firm intentionally imitates a strategic decision introduced by an industry rival*. Mirroring the outlined necessary conditions, we placed five inclusion/exclusion criteria around the scope of this review. First, we included studies rooted in the imitation literature that explicitly focus on SoI as a deliberate strategic decision. This excludes works that treat imitation as an incidental or involuntary occurrence without strategic intent. Second, a clear target of imitation is essential for identifying SoI. We included studies that specify "who" is being imitated (at different speeds). This excludes empirical articles that discuss optimal timing or competitive actions without identifying a specific rival whose actions are being replicated. Third, we required the presence of an intra-industry target, as it contextualizes the imitator's actions within a specific competitive landscape. This excludes studies where the imitation target is an extra-industry pioneer or where the pioneer's industry context is not clearly defined, as these scenarios do not reflect the direct competitive interplay between rivals that SoI aims to capture. Fourth, imitation requires a defined object to differentiate SoI from other forms of competitive responses. We included studies where the object of imitation is explicitly identified, allowing for an examination of what is being imitated (and at what speed). Studies that lack clarity on the specific action being replicated were excluded. Fifth, the imitation lag is fundamental to SoI as it captures the temporal dimension of imitation decisions—specifically, how quickly firms act in response to a pioneer's actions. For empirical studies, we included those that explicitly capture the imitation speed. Similarly, for non-empirical studies, we focused on works that explicitly discuss the role of being quick or late in imitating rivals. This includes studies that theorize about the implications of different imitation velocities, explore conditions under which SoI becomes a strategic advantage, or frame SoI as a distinct competitive response characterized by its pace.

4.2. Methodological procedures

To lay the groundwork for this review, we began by informally scanning the literature to understand the varied lexical repertoire used by academics to describe the "speed" and "imitation" components central to our study. With a focus on imitation strategies, we initially targeted a limited range of journals and topics. This preliminary search led to the identification of various terms associated with speed (e.g., time, pace, rate, velocity) and imitation (e.g., replication, copy). Based on these findings, we incorporated all such keywords in our search strategy, which is comprehensively detailed in the online Appendix B. Building on this initial exploration, we developed a search query that coupled the "speed" and "imitation" dimensions with terms from the Academy of Management – Strategic Management (STR) Division keyword list, restricting the search to the top 15 management journals (Posen et al., 2023).

The primary database used for the review was Scopus, with searches conducted within the article title, abstract, and author keywords. The search was conducted for all potential articles published between 1972 and 2023 (the full search code is provided in online Appendix B), yielding 647 articles. However, to minimize the risk of missing relevant studies, we ran several additional iterations in alternative academic databases, including Business Source Ultimate EBSCO, Google Scholar, ABI/Inform, and Web of Science, extending the pool (after removing duplicates) to 658 articles. We then screened the articles based on thematical proximity (removing out-of-scope articles), and assessed review eligibility of the studies applying our inclusion/exclusion criteria, resulting in a final set of 29 articles. Next, we integrated the pool through backward and forward search procedures, selectively reviewing articles published in different outlets (Zachary et al., 2015). Specifically, we assessed the potential inclusion of additional articles ranked in the first quartile (Q1) of the International Scientific Indexing (ISI) within the management, business, and economics categories. This process led to the identification of 11 additional studies. As a result, our final sample consisted of 40 original articles, published in 20 different journals, spanning from 1961 to 2022. In Fig. B1 of Appendix B, we report the overall review flowchart.

Of these 40 articles, 37 were empirical, and three were conceptual or based on mathematical models. This represents the primary sample upon which we conducted our review. However, the presentation of the findings extends beyond this sample, recalling key contributions cited by the authors to ground their research. Findings of this initial examination are summarized in Tables C1 and C2 in the online Appendix C, where we organize the reviewed literature on SoI around two themes, i.e., the antecedents and outcomes of SoI, and therefore provide a table with sampled studies for each theme. Moreover, online Appendix D provides the bibliography for our review sample, distinguishing primary subsample articles from additional studies on SoI sourced from other sources.

From a competitive dynamics perspective, the antecedents of SoI are organized using the AMC framework. For each of the AMC's three dimensions, the antecedents are presented sequentially at the imitator, target, object, and industry levels[5]—although antecedents were not identified at all four levels for every AMC dimension, leaving avenues for future research, as will be further elaborated in the discussion section. This approach reflects our goal of explaining SoI by examining

[5] While the "speed" component is the focus of our review, the four proposed levels of analysis reflect the other necessary conditions required for identifying an imitative process and its drivers, as we previously explained.

Table 2
Empirical summary on speed of imitation: predicted and obtained relationships.[a]

Antecedents of speed of imitation	Outcomes of speed of imitation
Imitator characteristics	***Imitator's strategic positioning***
Organizational rigidities:	Pricing:
• Organizational inertia (−)	• Set higher prices by the imitator (+)
• Ownership resistance to challenge the status quo (−)	• Propensity toward price-cutting actions by the imitator (−)
• Fit with dominant norms (+)	
• Age (−)[NS]	***Rivals' strategic response***
	Imitative response:
Resources:	• Rivals speed of imitation (+)[NS]
• Advertising expenditure (+)(+)[−]	mod. by product technology heterogeneity in the market (−)[NS]
• R&D intensity (+)(+)[NS]	• Degree of competitive responsiveness by the pioneer (+)
• Market share (+)	mod. by whether pioneer is also market leader (+)[−]
• Size as total assets (−)	mod. by industry clock-speed (−)
• Prior return on assets (+)	
• Resource slack (+)	***Imitator's performance***
• Possession of industry-specialized assets (+)	Sales:
	• Sales of the imitator (+)
Experience:	mod. by product technology heterogeneity in the market (−)[NS]
• International experience (+)(+)(+)	• Sales revenues of the imitator relative to the market leader (−)
mod. by specific experience in the target industry (−)	med. by product differentiation of the imitator (+)
• Prior entries in culturally similar markets (+)	• Market share of the imitator (+)(+)
• Product experience (−)[NS]	• Market share of the imitator (−)
mod. by market sales volatility (−)[NS]	mod. by size of the imitator (+)
	mod. by portfolio experience of the imitator (−)
Diversification:	mod. by industry experience of the imitator (−)
• Product diversification (−)	• Market share of the imitator relative to the pioneer (+)
• Product line breadth (−)	mod. by whether pioneer is also market leader (−)
mod. by market sales volatility (−)	mod. by industry clock-speed (+)
• International diversification (+)	
mod. by business group affiliation (+)	Profitability:
• Board interlock to the firm (+)[−]	• Return on assets of the imitator (+)(+)
• Affiliation with business groups (+)	mod. by competitive intensity (+)
• Multi-entity characteristic of the business group (+)	mod. by exploitation-based absorptive capacity of the imitator (+)
	• Return on sales of the imitator (+)
Country culture:	mod. by competitive intensity (+)
• Headquarters in a Hofstede collectivistic country (+)	mod. by exploitation-based absorptive capacity of the imitator (+)
• Headquarters in a Hofstede high power distance country (+)	• Return on investments of the imitator (+)[NS]
• Headquarters in a Hofstede uncertainty avoidance country (+)[NS]	mod. by competitive intensity (+)[NS]
• Headquarters in a Hofstede feminine country (+)[NS]	mod. by exploitation-based absorptive capacity of the imitator (+)[NS]
• Headquarters in a Hofstede long-term orientation country (+)[NS]	• Net income of the imitator (−)
	mod. by size of the imitator (+)
Target characteristics	mod. by industry experience of the imitator (−)
Visibility:	mod. by portfolio experience of the imitator (+)[NS]
• Large market share (+)	• Gross margin of the imitator (+)[NS]
• The imitated pioneer is also the market leader (+)	mod. by size of the imitator (+)[NS]
	mod. by industry experience of the imitator (+)[NS]
Capabilities:	mod. by portfolio experience of the imitator (+)
• Rivals' international experience (+)	
• Rivals' R&D intensity (+)[NS]	Survival:
• Rivals' market shares in the existing industry (+)[NS]	• Survival likelihood of the imitator (+)
• Rivals' advertising expenditure (+)[−]	
• Flow of key human resources from target to imitator (employee turnover) (+)	Market value:
• Continuous innovation development (−)	• Tobin's q performance of the imitator (+)
• In-house manufacturing capabilities (−)[NS]	mod. by resource slack of the imitator (+)
	• Shareholder return of the imitator (+)(+)
Similarity with the imitator:	
• The imitated pioneer is in the imitator's strategic group (+)	Composite performance index:
• Market share similarity with existing-industry's rivals that imitated (+)	• 5-item-scale performance the imitator (+)[NS]
• Social proximity between prior adopters and the imitator (+)	mod. by market unpredictability (+)
• Number of different-format rivals in the target industry (+)	
• Number of same-format rivals in the target industry (∩)	***Rivals' performance***
• Number of same business group imitators in the target industry (+)	Sales:
	• Rivals' sales (−)
Object characteristics	
Visibility:	Market value:
• Visibility of the object (+)	• Pioneer's shareholder return (−)[NS]
Innovativeness:	
• Radicality (−)(−)[+]	
• Substitute rather than new functionality defining (+)[−]	
Complexity:	
• Complexity (−)	
• Misfit with the organization (−)	
• Investment required to imitate (−)	

(*continued on next page*)

Table 2 (*continued*)

Antecedents of speed of imitation	Outcomes of speed of imitation
Product vs Process: • Products rather than processes (+)(+)	
Legal protection: • The object is patented (−)	
Expected outcomes related to the object: • The innovation is perceived to attack a strategic market where the imitator operates (+) • Expected post imitation returns (+) • Expected scope of the customer base (+)	
Industry characteristics Uncertainty: • Product diffusion (+) • Uncertainty about the industry's policies (−) • Product technology heterogeneity (−)[NS]	
Number of previous imitators: • Number of previous imitators (+)[−] • Number of previous imitators (+)(+)(+)(+)(+)(+) mod. by firm's performance volatility (+) mod. by firm's prior niche experience (−) mod. by a firm's prior experience in a niche with a trailblazer (+) mod. by market volatility (−) mod. by uncertainty about rivals' actions (−) • Number of firms possessing industry-specialized assets (+) • Number of home country rivals in a target industry (+)(+) mod. by imitator's firm age (−) mod. by concentration in the focal firm's existing industry (−) • Number of home country rivals in a target industry (∩)	
Industry competitive structure: • Competitive intensity (∩) • Concentration in the focal firm's existing industry (+) • Competitive threats faced by the imitator in the existing industry (+) • Direct rivals compete directly with each other (+) • Direct rivals have footholds in each other's markets (+) • Direct rivals have similarly high stakes in the same markets as each other (−)	

[a] (+), (−), and (∩) indicate that the hypothesized relationship between SoI and another variable was positive, negative, or inverted U-shaped, respectively. The superscripts in square brackets [+], [−], and [NS] denote that the hypothesized relationship was not supported, and report the sign of the relationship obtained empirically, with "NS" standing for "not significant." The specifications "mod. by" or "med. by" denote that a given relationship is moderated or mediated by a given variable, respectively. Some items have multiple signs, indicating more than one study exists analyzing a given relationship. In some papers, SoI is framed in terms of imitation timing (i.e., the time it takes for a firm to imitate), which has an inverted proportional relationship with SoI. For consistency, in this table the signs of the relationships are always expressed in terms of SoI.

"who" imitates and is imitated at different speeds, "what" is imitated, and "where" the imitation occurs. Our interpretation of each paper on the antecedents of SoI, anchored to the awareness, motivation, and/or capability dimensions, was guided by the definitions of these dimensions. Specifically, awareness refers to "a firm's scanning and information-processing capabilities, as well as the visibility of the competitive action" (Chen and Miller, 2012, p. 145); motivation pertains to "the potential gains or losses associated with the action or response" and is "linked to the intensity of rivalry and the competitive stakes" (p. 146); and capability denotes "the organizational and resource-based ability to respond effectively to a competitor's actions" (p. 147). Using these definitions, we analyzed the theoretical positioning and lexical repertoire of each sampled article to determine whether the focus of each hypothesized relationship aligned more closely with one dimension or another. For example, MacMillan et al. (1985) emphasized the significance of the visibility of the imitated object, "but only if [such object] is identified as such" (p. 76), as this increases awareness. Pacheco-de-Almeida and Zemsky (2007) highlighted that SoI is contingent upon "the incentive to compress time" (p. 663) with the aim to maintain competitive parity. Jonsson and Regnér (2009) examined how imitator-level factors influence the "techno-legal ability of firms to imitate" (p. 531).

The outcomes of SoI, framed within the action-reaction perspective, are categorized into strategic and performance dimensions for both the imitator and its rivals—with several outcomes not yet addressed in the literature that warrant attention and suggest avenues for future research, as elaborated in the discussion. Strategic outcomes were coded as the (re)actions undertaken by the focal firm or its rivals, which we extrapolated from the articles in our review, resulting from the focal firm's decision to imitate at a specific speed. In contrast, performance outcomes were coded as the economic performance resulting from the act of imitating at that speed. This approach aligns with the action-reaction perspective, which examines actions, reactions, and performance as part of a sequential process (Ferrier, 2001; Smith et al., 1992).

Moreover, in Table 2, we provide an overview of the empirical findings related to the antecedents and outcomes of SoI. For each hypothesized relationship reviewed in the sampled studies, we report whether the authors' empirical analysis supported it.

5. Making the decision to imitate at a certain speed

5.1. What makes a firm aware that something/someone could (not) be imitated rapidly

5.1.1. Target-level factors

Scholars noted that the degree of visibility of the target is a key determinant of SoI, such that more visible rivals tend to be imitated more quickly. Visibility refers to the extent to which a firm or its

strategies are noticeable and recognizable by rivals (Chen, 1996). From a competitive dynamics perspective, firms' visibility can be enhanced by their size (e.g., ceteris paribus, if a firm is the market leader, it should be more visible than non-leading firms). Gimeno et al. (2005) argued that "the domestic market shares of prior movers determine the visibility of their strategic actions. Actions by firms with large market shares may be perceived as especially threatening since their resources support moves of greater competitive magnitude. Prior movers with high domestic shares will be more likely to elicit fast competitive responses" (p. 302). Consistently, the authors observed that the strategic actions carried out by firms with *large market shares* are more visible in the eyes of rivals and, thus, more rapidly imitated.

Moreover, authors have observed that the degree of similarity between the targets and the imitator could affect the focal firm's awareness of a particular behavior, such that firms tend to be more aware of the behaviors of more similar rivals, and thus imitate them in a shorter time. In this regard, Gimeno et al. (2005), drawing on competitive dynamics, observed that firms are most aware of actions undertaken by more similar rivals. The authors found that the speed of imitative entry in a host country by a focal firm is enhanced when the focal firm exhibits *similarly high market shares in the domestic country* as compared with prior movers from the same domestic market. Likewise, as Giachetti and Lanzolla (2016) noted, firms within a strategic group, due to the greater similarity in their strategic actions, are more aware of each other's activities. This heightened awareness enables them to recognize their mutual dependence and imitate more quickly. Accordingly, the authors found that *when the technology pioneer belongs to the same strategic group* as the focal firm, imitation tends to occur more quickly.

5.1.2. Object-level factors

The visibility of the object is crucial for rapid imitation strategies. In fact, firms can imitate a specific object at different speeds, but only if they can clearly observe it (MacMillan et al., 1985). This aligns with the AMC framework, as the imitator's awareness of a potential object of imitation is a function of the object's visibility (Chen and Miller, 2012). For example, authors have noted that the *visibility of a new product during its launch* can be enhanced by heavy advertising, which in turn elicits quick imitation. This occurs because widespread information about a rival's new offering enhances the focal firm's awareness of a new competitive threat (MacMillan et al., 1985).

5.1.3. Industry-level factors

As more firms adopt a particular behavior, it becomes more observable within the industry. This could raise the awareness of other potential imitators about the existence and possible positive effects of such a behavior. In this perspective, for example, Gaba and Terlaak (2013), in their study of US private venture capital firms, identified that the number of prior exits positively influences SoI in exit decisions, as prior exits might enhance the imitator's awareness of potential threats in the industry, accelerating exit procedures by the remaining firms. Simon and Lieberman (2010), in their study of the magazine industry, argued that firms that "were able to observe [the behavior of their] rivals [...] could often copy [it] relatively easily" (p. 134). This ease of imitation, driven by increased awareness, in turn, accelerates the imitation process. Mansfield (1961), drawing on technological change and diffusion theories, argued that an increase in the *number of previous imitators* reduces the perceived risks associated with the innovation, thereby encouraging more rapid imitation. Delios et al. (2008) and Henisz and Delios (2001) argued that imitation is stimulated by contextual uncertainty and by the imitator's awareness of the earlier movers' actions. When the focal firm can observe repeated imitative actions by rivals, these behaviors become more visible, increasing the likelihood that the focal firm will also imitate without delay. However, these arguments did not always find empirical support. For example, Rose and Ito (2008) theorized that in oligopolistic industries, bandwagon effects induce earlier imitative market entries but found evidence suggesting the opposite.

5.2. What are the motives for (not) imitating rapidly

5.2.1. Target-level factors

Scholars have noted that target visibility can influence the motives for fast or slow imitation. For instance, in highly uncertain environments, information-based motives drive faster imitation of highly visible rivals, as these rivals are perceived by the focal firm to possess superior information. By imitating them, the focal firm aims to reduce the risk of strategic mistakes. In this perspective, Giachetti and Lanzolla (2016), in their study of mobile phone vendors in the UK, drew on information- and rivalry-based motives for imitation to ascertain that firms imitate product technologies *introduced by the market leader* more rapidly when demand and technological uncertainties are high, like when the product is not diffused among consumers, and the pace of technological change is high.

Another factor that could drive rivalry-based motives and information-based motives for imitation is the degree of similarity between the target and the imitator, for example, in terms of size or occupied market space. Regarding rivalry-based motives, Guillén (2002) found that the number of previous rivals' *entries* positively impacts SoI by a focal firm. Such an effect is even more pronounced when previous entrants *belong to the same business group* of the focal firm, because firms are more "tied to each other" (p. 511) and thus are more inclined to maintain the competitive pace of those rivals belonging to the same business group. Giachetti and Lanzolla (2016) also examined rivalry-based motives, pointing out that as product diffusion increases and product configurations get closer to the dominant design, uncertainties reduce, and firms increase their SoI of rivals belonging to their strategic group to maintain competitive parity. Regarding information-based motives for imitation, instead, Greve (1996) argued that "strategists use the actions of others to infer the information that they have, incorporating the idea of social influence into a model of rational action under uncertainty" (p. 30). In his study of the US radio broadcasting industry, the author found that under high uncertainty, social proximity positively influences SoI. Social proximity allows the imitator to quickly gain more insights about the target, which can be used to mitigate uncertainty.

Authors have noted that the capabilities of the imitation target affect SoI because they elicit more trust in its strategic decisions, thereby fostering information-based motives for rapid imitation. Specifically, authors have argued that when earlier movers exhibit strong capabilities, this legitimates their strategic decisions, which in turn increases firms' motivation to imitate them quickly. Delios et al. (2008) investigated how various capabilities of the target—specifically, its international, marketing, and technological capabilities—affect firms' SoI of its market entry decision. However, the authors' findings were mixed in their study of publicly listed manufacturers in Japan. They found that (a) *rivals' capabilities to operate internationally* positively influence the SoI of their strategic decisions, (b) *rivals' marketing capabilities* negatively influence the SoI of their strategic decisions, and (c) the relationship between *rivals' R&D intensity* and SoI is not statistically significant.

5.2.2. Object-level factors

The expected outcomes of imitating a specific object—whether rapidly or slowly—can influence its SoI. Following a rivalry-based logic, Pacheco-de-Almeida and Zemsky (2007) argued that the "effect of the competitive parity pay-off [...] increases the incentive of the follower to compress time" (p. 660). In other words, the prospect of performance gains may prompt quick imitation to preserve competitive parity with prior movers. Likewise, Mansfield (1961) noted that "the rate of imitation is faster in more competitive industries" (p. 763), implying that firms in such industries are more responsive to potential competitive advantages gained through innovation and subsequent imitations. This heightened responsiveness is linked to the fact that *high expected returns*

from an innovation significantly increase the SoI. MacMillan et al. (1985) argued that if "the new product is perceived as attacking a major strategic position of a competitor, it is likely to provoke substantial and rapid response" (pp. 100–101). This perspective posits that firms are highly attuned to actions that could threaten their established market positions. When a pioneering move is perceived as a direct attack on a firm's strategic market, it provokes a defensive response. Consistently, the authors found that the extent to which a pioneering move is *perceived to attack a strategic market* can elicit quick imitative moves, as rivals are motivated to maintain their competitive positioning through rapid imitation. Lee et al. (2003) found that products designed for a broad customer base are perceived as having greater potential to enhance future profits, thereby incentivizing other firms to imitate them more quickly.

5.2.3. Industry-level factors

Environmental uncertainty can take various forms, encompassing, for example, technological, market, or political dimensions. In this perspective, researchers have found that the level of uncertainty in an industry—which can be determined by several different factors, such as the level of information flows, the extent to which multiple designs exist in an industry, or its political instability—can prompt firms to pursue imitation strategies at different speeds. The levels of environmental uncertainty affect the magnitude of rivalry-based and information-based motives for imitation, in turn increasing or decreasing the SoI. For example, Giachetti et al. (2017) theorized that high *product technology heterogeneity*, namely the extent to which the industry has multiple designs, resulting in product variety, increases technological uncertainty, and makes it difficult for the focal firm to accurately infer the behaviors of its rivals, which in turn discourages quick imitation. Likewise, Henisz and Delios (2001), with the lens of institutional theory and research on political institutions, found that a firm's *uncertainty about future regulations in a specific country*—particularly the likelihood of policymakers altering the policy regime status quo—negatively affects the speed of its imitative entry into that country.

Additionally, regarding how the *number of previous imitators* influences a focal firm's SoI, the literature has built on various theoretical perspectives and examined different objects of imitation (i.e., products, technologies, market entries, and exit decisions). For example, Mitchell (1989), in his study of the evolution of the US medical diagnostic imaging industry, observed that emerging technical subfields were marked by significant market and technological uncertainty, as well as by substantial growth opportunities for new entrants. In these conditions, industry incumbents faced a strategic decision: to quickly engage in imitative entry or to wait until uncertainties were resolved. The author identified that the SoI was positively affected by the *number of previous entrants possessing industry-specialized assets in an emerging subfield*. The rationale behind this finding intersects rivalry-based and information-based motives for imitation. The entry of firms with specialized assets into a new subfield signals its potential for growth. For incumbents, the presence of these entrants intensifies the competitive environment, creating a sense of urgency to imitate and enter the subfield rapidly. On the other hand, the accumulation of industry-specialized assets among multiple firms in a subfield provides valuable information to other industry players. It reduces uncertainty about the subfield's potential, enabling incumbents to make more informed decisions about entering. The presence of these assets increases the subfield's legitimacy and potential profitability, thus encouraging quicker imitation. Similar findings have been reported in studies examining the imitation of technological innovations (Mansfield, 1961) and market entries (Delios et al., 2008; Henisz and Delios, 2001; Hsieh and Vermeulen, 2014; Ozalp and Kretschmer, 2019). In contrast with these findings, Rose and Ito (2008), in their study of the Japanese automotive industry, found that firms tend to defer imitative market entry when many domestic rivals have already entered.

Finally, some authors noted that a critical factor affecting the motivation for greater SoI is the competitive structure of the industry. For example, Gielens and Dekimpe (2007) identified that the relationship between competitive intensity and the speed of imitative market entry is non-linear. Specifically, as the number of rivals increases from low to moderate levels, firms perceive the market as attractive and are more motivated to enter quickly to maintain competitive parity. However, when the number of rivals becomes too high, the perceived threat of intense competition rises, reducing firms' willingness to engage in imitative entry due to the heightened risks involved. Moreover, Delios et al. (2008) and Mitchell (1989) found that the speed of imitative entry in an industry is enhanced by the level of *industry concentration* and *competitive threat faced by the imitators,* respectively, in the industry in which they operated prior to entry. Hsieh and Vermeulen (2014) found that SoI is affected by *the extent to which a focal firm's direct rivals also compete directly with each other*. This is because rivalry provokes a herding effect, quickly prompting focal firms to conform to mimetic pressures to maintain competitive parity. Additionally, drawing on mutual forbearance arguments developed by scholars in the multimarket contact literature (e.g., Gimeno, 1999), the authors empirically found that *rivals possessing footholds in each other's markets* tend to reduce rivalry, and this positively influences SoI as firms assume that rivals that behaved in a nonaggressive way toward each other in the past will also behave in a nonaggressive way in the new market.

5.3. What affects the firm's capability to imitate rapidly

5.3.1. Imitator-level factors

The speed at which firms can execute rapid imitative strategies widely depends on their capability to execute imitation promptly, and thus on their organizational structure. Authors in the imitation literature have examined how various organizational rigidities,[6] such as high formalization (i.e., the extent to which rules and procedures are designed formally within an organization), preferences for maintaining the status quo, inertia, and low fit with dominant norms have a negative impact on SoI. For example, MacMillan et al. (1985) argue that "organizational decision-making [is] the outcome of bureaucratic processes. [...] Major changes such as the introduction of a new product cannot be accomplished without developing new procedures and setting new policies that disrupt the old order of things and established patterns of interaction" (p. 66). In their study of the US banking industry, drawing on organizational decision-making and competitive strategy, the authors found that firms imitate more quickly when *organizational inertia* is low, as it is associated with bureaucratic rigidities that, in turn, decrease the capability to perform rapid imitation and thus increase imitation lags. Through the lenses of institutional theory, Jonsson and Regnér (2009) studied how institutional constraints and the firm owners' attitude to challenge the status quo impact SoI of new products launched by an industry pioneer. In their study on Sweden mutual fund firms, the authors observed that quick imitation is a function of the internal techno-legal ability of the focal firm to undertake rapid imitation. Consistently, the authors found that imitators move more quickly when there is a high fit with dominant norms and the majority ownership of the focal firm does not exhibit *resistance to challenge an established logic*, as both misfit and resistance constitute normative barriers to rapid imitation. Finally, concerning *firm age*, drawing on institutional theory, Guillén (2002), in his longitudinal study of South Korean firms in China, theorized that focal firm age negatively influences SoI as older firms might find it more difficult to change long-standing organizational arrangements. However, this hypothesis was not supported.

Previous studies have analyzed how firm resources affect SoI.

[6] Drawing on the seminal work of Nelson and Winter (1982) on routines as regular and predictable behavioral patterns of firms, we interpret organizational rigidities (e.g., formalization and bureaucratic processes) as entrenched routines that hinder the capability for rapid imitation.

Haleblian et al. (2012) identified that a firm's *investments in technology and marketing* accelerate its imitative moves. Similarly, Delios et al. (2008) argued that firms that invest more extensively in intangible assets can better assess risks and rewards in the environment and, thus, are more capable of pursuing a quick imitative entry into a host country. Gimeno et al. (2005), drawing on competitive dynamics, in their study of US telecom firms, argued that larger rivals possess the capabilities necessary to respond quickly to prior movers, and are more active and effective in scanning rivals' moves. Consistently, the authors found that *market share* is a driver of quick imitation.

On the other hand, Haleblian et al. (2012) argued that smaller firms are more structurally flexible than larger ones, and are thus more inclined to explore new opportunities. Exploration allows the firm to absorb the knowledge necessary to imitate quickly. In their study of merger waves in a variety of industries, the hypothesis that *firm size* is negatively associated with SoI received empirical support, i.e., smaller firms are more likely to be early entrants in merger waves. Finally, Haleblian et al. (2012) argued that resource availability affects the imitator's ability to mitigate risk and take on risk, accelerating imitative decisions. For example, the authors found that the imitator's *resource slack* (used as a proxy for a firm's capabilities to mitigate risks) and *past performance* (used as a proxy for a firm's ability to take on risk) lead to quicker imitative actions within the context of merger waves.

Authors have noted that more experienced firms tend to rely on past clues, thus enhancing their capabilities to undertake quick imitation. However, these studies exhibit mixed results. For example, authors noted that the speed at which a firm imitates industry rivals may depend on its *international experience*, defined as its investment history in foreign countries (Delios et al., 2008; Henisz and Delios, 2001). The underlying logic is that international experience is associated with superior knowledge of international market demand. Therefore, experienced firms tend to develop specific capabilities to assess risks and rewards related to quick imitation in foreign markets, which increases their capability to imitate rapidly (Delios et al., 2008). Similarly, Gielens and Dekimpe (2007) argued that the more culturally similar a host market is to prior markets where a firm has operated, i.e., *experience with culturally similar markets*, the greater the firm's SoI in foreign market entry. By contrast, OuYang et al. (2019), in their study of the Chinese automobile industry, did not find empirical support for their hypothesis that greater *product experience*, i.e., the extent to which a firm has experimented with different versions of a product category, delays imitation.

The literature on corporate strategy has discussed how different types of diversification—i.e., product and international—lead to similar outcomes in terms of risk reduction and profitability (e.g., Schommer et al., 2019). Interestingly, the two diversification types were described as providing an opposite underlying level of capabilities to perform rapid imitation. Regarding product diversification, which is defined as the diversity of product markets, some authors pointed out that this is often associated with high levels of bureaucracy (Donaldson, 2003). Hence, it can hinder quick imitation, as this can be seen as one of the sources of organizational rigidity. Accordingly, Haleblian et al. (2012) argued that, within merger waves, the acquired diversity of business lines and product markets is associated with higher bureaucracy inside the firm, and a slower activation of the AMC mechanisms, which in turn lead to prolonged time spans in the execution of imitative actions within merger waves. The authors found that the *less diversified the acquirer firms were in a merger wave*, the quicker they carried out imitative entry. OuYang et al. (2019) concluded that *product line breadth* negatively affects the speed at which firms pursue imitative entry into a market.

By contrast, in studies on international diversification (i.e., the extent to which a firm spreads its assets or sales across different geographic markets), authors noted that such diversification is associated with rapid imitation. For example, drawing on the resource-based view of the firm, Fuad and Sinha (2018) found that imitators with a greater *degree of internationalization* possess a variety of knowledge that supports them in developing the capabilities needed to facilitate quick moves. SoI is even more pronounced when the focal firm is affiliated with a business group, as the network it belongs to provides greater access to market opportunities and enhances resource mobilization compared to standalone firms.

Authors also observed that a firm's *home country culture* plays an important role in determining the speed at which it imitates rivals, influencing the capability for quick imitation. Drawing on institutional theory, Li and Parboteeah (2015) in their study of international market entries, recognized that firms coming from certain countries are capable of undertaking quicker imitation strategies than those from other countries. Specifically, the authors noted that firms coming from *collectivistic* and/or high *power distance countries*, in line with Hofstede's cultural dimensions, tend to be quicker than those coming from individualistic and/or low power distance countries. Firms coming from collectivistic countries perceive themselves as being more embedded in society than those from individualistic countries, and thus, they show less resistance to social mimetic pressures. In high-power-distance countries, firms tend to follow authoritative patterns in their behaviors, while in low-power-distance countries, firms are less inclined to adhere to such structures, which can hinder their ability to rapidly respond to international market opportunities through imitation.

5.3.2. Target-level factors

In their study of Swedish innovators, Zander and Kogut (1995), drawing on the literature on knowledge and organizational capabilities, found that the SoI is influenced by the capabilities of the pioneer being imitated. For instance, they observed that when key human resources move from the target firm (the pioneer) to the focal firm (the imitator), the speed of imitation increases. This transfer of talent effectively reduces the innovator's unique capabilities while enhancing the imitator's knowledge base. They also found that the pioneer's continuous efforts to improve its innovations create a significant barrier to rapid imitation. Such ongoing enhancements slow down the imitator's speed, as the target firm is persistently advancing its products and processes, making it more challenging to catch up. However, they concluded that the pioneer's direct control or ownership of specialized manufacturing equipment does not significantly impact the imitator's ability to imitate swiftly.

5.3.3. Object-level factors

Authors investigated how the innovativeness of the object influences SoI, arguing that more innovative objects are more challenging to imitate, leading to a negative impact on the capability to imitate quickly; the literature generally concludes that as the degree of innovativeness increases, SoI decreases. Drawing on multiple theoretical perspectives within the strategy field, Lee et al. (2003) and MacMillan et al. (1985) argued that *product radicality*—that is, the extent to which the product (the object of imitation) incorporates radically innovative components or functionalities—negatively influences SoI. This is because the imitation of radical innovations requires changes in established procedures and routines, as well as large investments to reconfigure manufacturing processes and technologies (Mansfield, 1961). These changes take time and cannot be easily implemented in the short run. However, Lee et al. (2003) empirically found the opposite: product radicality accelerates imitation. Other authors have also examined the innovativeness of the imitated object depending on whether it offers brand-new or substitute functionalities. For example, Giachetti and Lanzolla (2016) argued that the SoI of *functionality-defining technologies* (i.e., those that provide products with brand new functionalities) are perceived by consumers as being more innovative than substitute product technologies (i.e., those that do not alter the product functionality, but deliver it via alternative technologies), and are therefore imitated less quickly as they are expected to require more time to be accepted by final users. However, this hypothesis did not find empirical support.

Other scholars have shown that the complexity of the object makes its imitation more time-consuming as it creates an obstacle in the way a

firm is able to assess its revenue potential, costs, and risks, thus affecting the capability to imitate quickly. Pacheco-de-Almeida and Zemsky (2007), in their study on time-compression diseconomies, argued that the firms' capability to undertake rapid imitations is negatively influenced by the complexity in both resource development and cost of capital for the imitator. MacMillan et al. (1985) noted that *product complexity*—that is, the extent to which a new product introduction disrupts existing procedures, policies, and programs—hinders SoI. Specifically, the authors argued that "the more complex the product, the greater the logistic problem of revising existing procedures, policies, and programs to incorporate the required activities. Therefore, response time will be longer the greater the complexity" (p. 77), thus suggesting that complexity hinders the capability to undertake rapid imitation. Consistently, the authors found that the *misfit*—the degree to which the new product does not align with existing jurisdictions—negatively influences the SoI of the pioneer's strategic initiatives. Similar findings were obtained by Jonsson and Regnér (2009).

Another aspect explored by authors concerns whether SoI changes from product imitation to process imitation. Authors noted that product innovations tend to move smoothly through development and face less resistance to their implementation. By contrast, process innovations are usually more systemic and involve larger aggregated resources and capabilities (Cohen et al., 2002; Damanpour and Gopalakrishnan, 2002). Overall, this line of reasoning could support that the complexity of imitation (in this case, due to the nature of the object to be imitated) could hinder the SoI (as previously observed also by MacMillan et al., 1985). In fact, the authors found that *product innovations* are imitated more quickly than process innovations.

Authors have also highlighted that the usage of legal protection in the form of patents by pioneering firms prolongs imitation lags, as they directly hinder the ease of imitation, and thus the capability to carry out imitation in a short amount of time. In this regard, for example, Cohen et al. (2002), in their study of the US and Japanese manufacturing industries, drew on the R&D spillover and appropriability literature to conclude that SoI is greater *when products and processes are not patented*.

6. Once the decision to imitate at a certain speed is made: what can be expected?

6.1. Strategic outcomes

6.1.1. Imitator's strategic positioning

Some studies have examined how a firm's decision to imitate rapidly affects its subsequent decisions regarding its strategic positioning relative to rivals. In particular, researchers have focused on the relationship between SoI and the *pricing* strategies of imitators (e.g., Makadok, 1998; Smith et al., 1997). Quick imitation puts imitating firms in the position to leverage early-mover advantages, causing them to be less prone to cutting prices. For example, Makadok (1998) found that SoI positively affects the price level that can be set by quick imitators. Moreover, Smith et al. (1997), in their study of the US domestic airlines, observed that the speed of tit-for-tat imitative actions negatively and significantly correlates with a propensity for price-cutting strategies, as quick imitators are believed to be differentiators in the eyes of consumers with respect to laggards, and thus are more inclined to implement premium pricing strategies.

6.1.2. Rivals' competitive reactions

Authors have also noted that SoI may trigger *rival responses*. For example, Giachetti et al. (2017) theorized that the speed at which a focal firm imitates new product technologies positively influences the *speed at which rivals will imitate* new product technologies. Their logic is that to maintain competitive parity, firms have to quickly imitate each other, and the pressure for rapid imitation escalates as rivals observe the focal firm's performance to improve at the expense of their own performance. Moreover, the authors argued that such a positive relationship is weakened by the level of product heterogeneity in the market, as high product heterogeneity is associated with greater technological uncertainty, and it, in turn, might elicit rivals to compete less aggressively by postponing their imitative decisions. Likewise, Giachetti and Li Pira (2022) found that the SoI of a technology pioneer positively affects the pioneer's degree of competitive responsiveness against the imitator. However, the pioneer's retaliation is likely to soften if the pioneer is the market leader in rapidly changing technological environments.

6.2. Performance outcomes

6.2.1. Imitator's performance

Among studies examining the performance outcomes of SoI, those using *sales* as a measure of performance—either in absolute terms (i.e., units sold or revenues) or in relative terms (i.e., market share)—are likely the most prevalent. Studies on the effect of SoI on the imitator's sales exhibit mixed results. A first group of studies noted that rapid imitators benefit from many of the pioneer advantages, like differentiation, spatial preemption, and reputational advantages with respect to late imitators. For example, Giachetti et al. (2017), in their study of mobile phone vendors in the UK, drawing on Red Queen competition (Barnett and Hansen, 1996), determined that a focal firm's SoI of new product technologies positively influences its *sales performance*. Makadok (1998), in his study on the money market fund industry, drawing on the first-mover advantage literature, found that a focal firm following rapidly the entry of a pioneer into new product categories positively influences the focal firm's market share. Likewise, Lawless and Anderson (1996), in their study on the US microcomputer industry, drew on the technological change literature to determine that the SoI of new technologies has beneficial effects on the market share of the focal firm. Additionally, scholars investigated the relationship between SoI and the *market share of the imitator relative to the pioneer*. Drawing on competitive dynamics research, Giachetti and Li Pira (2022), in their study of new product technologies introduced by handset makers, found that SoI increases the *market share of the imitator relative to the pioneer*. However, they also noted that this relationship is weakened *when the pioneer is also the market leader*, due to its greater retaliatory power. From this perspective, rapidly imitating the market leader may backfire, as the imitator may lack the capabilities needed to withstand retaliation, ultimately leading to negative performance outcomes.

However, a second group of studies has shown that the decision to wait may allow imitators to learn from pioneers' mistakes and reduce the risk of launching products that are not in line with consumers' expectations. Accordingly, Ethiraj and Zhu (2008) argued that delayed imitation allows focal firms to have more time to acquire information, and it facilitates vertical product differentiation, which in turn is positively associated with the likelihood that imitators will have greater revenues than pioneers. In their study of best-selling US-branded drugs, the authors found that the speed of new product imitation is negatively associated with the *sales performance of the focal firm compared to the industry pioneer*. Likewise, Pentina et al. (2009) found that US bricks-and-mortar store-based retail firms enjoy superior market shares through delayed adoption of the online channel. In particular, the authors found that retail firms with a well-established brand name and reputation could deliberately delay their imitative entry in the online channel to take advantage of cheaper and better-developed technologies.

Another group of studies has examined the effect of SoI on the imitator's *profitability*. Levitt (1966) was the first to suggest that the SoI of new products and technologies positively influences the imitator's profitability, allowing it to benefit from new market opportunities and at the same time free-ride on the pioneer's investments in R&D. Subsequent studies empirically testing this relationship have found mixed results. Some authors have noted that quick imitators tend to exhibit greater *return on assets* (ROA) than late imitators because the former benefit from greater market access and profit opportunities. For

example, Fuad and Sinha (2018) observed that the speed of imitative entry in merger waves positively influences the *post-acquisition ROA of the acquirer*. Likewise, Su et al. (2015), in their study on the imitative implementation of the ISO 14001 management standard, drew on competitive dynamics and absorptive capacity studies to theorize that early imitation opens greater profit opportunities. They found that quick adopters achieved higher ROA and ROS compared to delayed movers. However, they also discovered that SoI has a negative impact on ROI. A possible explanation for these mixed findings is that the profitability of a rapid imitative strategy depends on whether the imitator possesses the necessary capabilities to execute it effectively. For instance, drawing on the first-mover disadvantage perspective, Pentina et al. (2009) observed that SoI (in distribution channel types) can negatively affect a firm's *net income* if the imitator lacks the capabilities required for swift imitation.

A few scholars have tested the effect of SoI on the imitator's *survival.* Authors have noted that SoI can also lead to the increased *likelihood of a firm's survival*. For example, Sinha and Noble (2008), in their study of the UK metal working and engineering industry, drawing on the technological change literature, found that when firms quickly imitate an industry pioneer in the adoption of a radical manufacturing technology, they tend to *survive* longer than slow imitators. The explanation thereof is that the successful rapid adoption and implementation of new manufacturing technologies helps them to be more efficient vis-à-vis rivals, which in turn gives them greater cash flows to better sustain their growth.

A few studies have investigated how SoI affects the imitator's *market value.* Authors have noted that firms that imitate a technological pioneer more quickly tend to achieve greater increases in stock market value. For example, Lee et al. (2000) in their study of US long-distance telecommunications, personal computer, and brewing industries, drawing on the first-mover advantage literature, determined that the SoI of new products positively impacts the *shareholder returns* of the imitator. Similar results were obtained by Carow et al. (2004) in their study of merger waves by listed US firms. By bridging the first-mover advantage literature with the resource-based view of the firm, the authors found that the SoI of merger-related activities within a merger wave positively influences the shareholder returns of the focal firm. Similarly, Lee and Grewal (2004), in their cross-country study of store-based retailers, drawing on the first-mover advantage literature, found empirical evidence for their hypothesis that the SoI of Internet as a communication channel positively impacts the *Tobin's q* measure of market value (i.e., the market value of a company divided by the replacement cost of its assets) of the imitator, and this relationship is strengthened by the resource slack of the imitator. The reason for this is that resource slack increases the strategic flexibility and hence the imitator's ability to integrate technological novelties into its business model.

Finally, we found only one study proxying the imitator's performance with a *composite performance index*. Durand and Coeurderoy (2001) in their study of French manufacturing firms, found that the SoI of new technologies improves the *overall performance* of the imitator—measured with a composite index comprising profitability and growth subdimensions—but only when environmental uncertainty is high.

6.2.2. Rivals' performance

Some studies have explored how SoI impacts the performance of the imitator's rivals. For instance, Pacheco-de-Almeida and Zemsky (2007) investigated causal ambiguity, which refers to uncertainty about how resources are developed. They argued that this uncertainty restricts the flow of information from an innovative market leader to its followers, making it more difficult for followers to identify which elements of the leader's strategy to imitate quickly. In such an ambiguous context, the performance of rapid imitators is dampened. Likewise, Pacheco-de-Almeida (2010) proposed that market leaders may even hold off on investing resources to sustain their leadership when industry rivals imitate very rapidly. This is because in such turbulent scenarios (D'Aveni et al., 2010), allowing rivals to imitate rapidly can be less detrimental for the leader's sales performance than devoting resources to heavy retaliation against rivals. Consistently, Giachetti et al. (2017) found that the SoI of new product technologies negatively influences *rivals' sales performance* because it erodes their initial differentiation advantage. Relatedly, Lee et al. (2000) theorized that SoI negatively impacts the pioneer's market value, although the data did not support their hypothesis.

7. Discussion

7.1. A process model to explain the antecedents and outcomes of speed of imitation

Although previous literature reviews on imitation (e.g., Lieberman and Asaba, 2006; Ordanini et al., 2008; Posen et al., 2023) have greatly expanded our understanding of why firms may choose to imitate each other, and the importance of this strategy for firm performance—acknowledging that SoI is one of the "many different imitation strategies" (Posen et al., 2023, p. 3)—they had not comprehensively explored the "speed" component of imitation. As a result, we still lacked a systematic definition of SoI as a specific type of competitive response, as well as an integrated view of the reasons behind fast or slow imitation, the target rivals and objects imitated more quickly, what conditions foster or hinder rapid imitation, and the outcomes associated with SoI. Against this backdrop, building on our review of the SoI literature through the lens of competitive dynamics research, in this section, we integrate such studies into a process model that systematizes the current understanding of SoI as a competitive response. This model provides a comprehensive framework, connecting the drivers of SoI to its outcomes and expanding our knowledge of the mechanisms that underpin this strategic action.

What emerges from our review is that SoI should not be treated as a unitary behavior, but as a **time-sensitive, context-dependent process** that varies across firms and across the phases of competitive interaction. Existing research tends to fragment imitation speed across isolated theoretical perspectives, each offering partial but ultimately discrete accounts. For example, the resource-based view typically explains SoI in terms of internal resource endowments and capabilities, emphasizing how slack resources or absorptive capacity enable firms to respond more quickly to rivals (Carow et al., 2004). Institutional theory focuses on legitimacy pressures and social conformity, often portraying imitation as a function of prevailing norms or peer behavior (Jonsson and Regnér, 2009). The first-mover advantage literature frames SoI as a strategic race—highlighting how firms either accelerate to preempt rivals or delay to learn from pioneers' missteps (Lee et al., 2000). Overall, these approaches generally overlook the **sequential, processual nature** of how imitation unfolds across time. By leveraging the **AMC framework** and the **action–reaction perspective**, we introduce a dynamic lens that foregrounds SoI. We show that firms move through distinct phases—recognizing a rival's move, evaluating their intent and capability to respond, and translating this into observable action—each phase shaped by different mechanisms, time lags, and contextual contingencies. This shift opens new space for understanding *when*, *why*, and *how fast* firms choose to imitate in competitive contexts.

Regarding the drivers of SoI, our study begins with the observation that, while previous competitive dynamics research has examined the relationships between awareness, motivation, and capabilities individually, as discussed by Chen and Miller (2012) and more recently by Sharapov and MacAulay (2022), a more precise prediction of competitive action—specifically SoI in the context of our study—can be achieved by integrating all components of the *AMC framework* simultaneously. Therefore, to comprehend the drivers of SoI, it is imperative to sequentially assess whether the firm is aware of an imitation opportunity, if it is motivated to pursue imitation at a particular pace, and if it possesses the capability to engage in quick imitation.

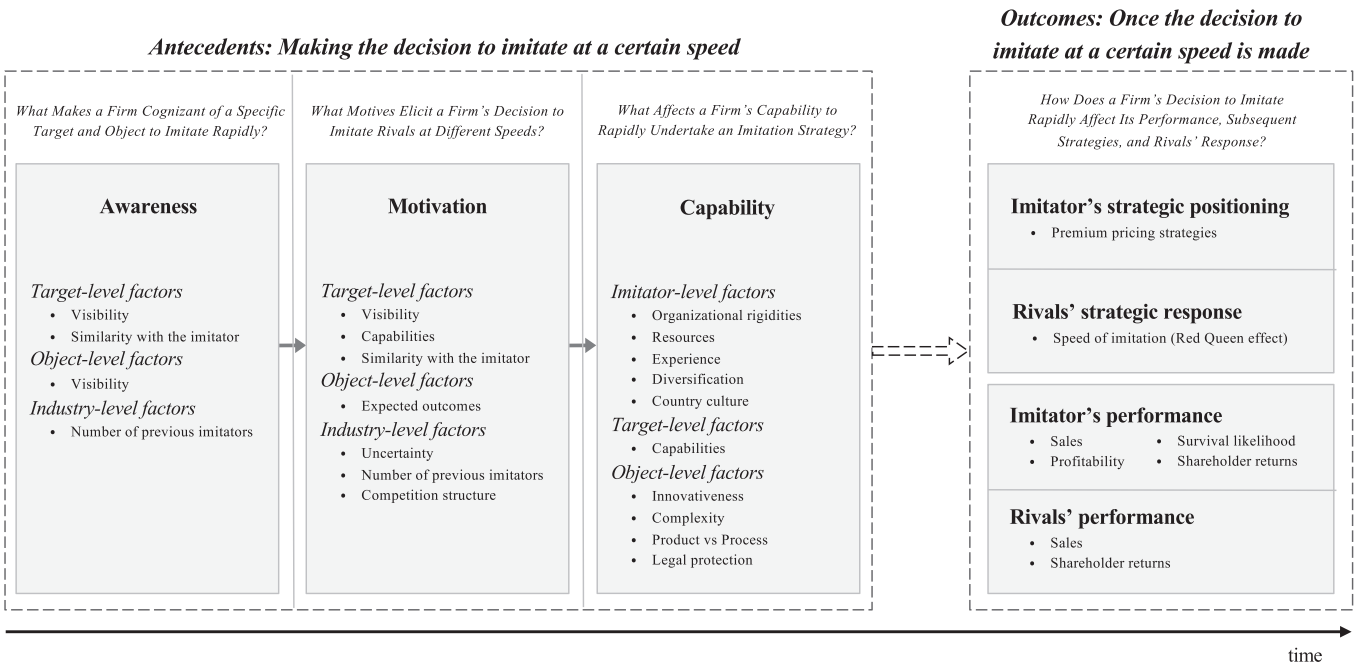

Fig. 1. Speed of imitation literature from a competitive dynamics perspective.

Likewise, SoI of rivals' action is not a static process, but, as put forward by the *action-reaction perspective* of competitive dynamics (Ferrier, 2001; Smith et al., 1991), a certain action elicits rivals' response and affects the focal firm and rivals' performance, as well as their subsequent strategic position. Building on the reviewed studies presented in the previous sections, in Fig. 1, we delineate a process model that integrates the antecedents and outcomes associated with a focal firm's SoI. The model elucidates the progression from a firm's awareness of viable targets and objects for imitation, through the motivational drivers for pursuing quick or slow imitation, to the role of internal and external factors in affecting the capability to undertake imitative strategies at different speeds, and ultimately, the SoI's strategic and performance outcomes both regarding the focal firm and its rivals.[7]

First, to undertake quick imitation, a firm must become *aware* of a potential target and object to imitate. Extant literature suggests that such an awareness is contingent upon the visibility of the target, the similarity between the target and the focal firm, and the extent to which a potential object of imitation is visible in an industry, creating room for quick imitation. Additionally, industry-level factors such as the number of prior imitators can significantly increase or decrease a firm's awareness of an imitation opportunity, providing a backdrop against which a firm may judge the feasibility of embarking on quick imitation.

Second, once a focal firm is aware of an imitation opportunity, a key role is played by its *motivation* to engage in quick imitation or eventually postpone the imitative decision. From this perspective, at the industry level, scholars have observed that the intensity of competition within an industry—shaped, for instance, by market structure—drives a focal firm to accelerate imitation to maintain competitive parity with its rivals. Environmental uncertainty, on the other hand, may lead the firm to wait before imitating with the aim of mitigating the risk of strategic mistakes, unless the target of imitation is highly visible and has a strong reputation. At the target level, a target's capabilities and visibility spur rapid imitation, as the focal firm perceives such a target as holding superior information. Additionally, a target's similarity to the focal firm also triggers rapid imitation, as the target is seen as a close rival with whom maintaining competitive parity is crucial. At the object level, factors such as the expected positive outcomes of rapidly imitating a particular product, technology, or strategy drive its imitation, as the focal firm seeks to capitalize on expected returns before its rivals.

Third, the *capability* endowment of a focal firm is central in shaping the speed at which it imitates rivals. Such a capability endowment could be affected by imitator-, target-, and object-level factors. Imitator-level factors, such as a focal firm's organizational rigidities, hinder SoI, while factors such as a focal firm's stock of resources and experience equip a focal firm with the necessary means for undertaking quick imitation. We also observed that firm diversification can affect SoI differently depending on whether diversification is at the product or international level. Moreover, the home country culture of a focal firm can constitute a cultural barrier or lever for expediting quick imitation. Target-level factors, such as the pioneer's continuous innovation efforts, slow down imitation, as ongoing improvements make it more difficult for the imitator to catch up. In contrast, the pioneer's control over specialized manufacturing equipment has little effect on the imitator's speed of imitation. Finally, object-level factors such as the extent to which an object is innovative, complex, demanding in terms of resources and capabilities (e.g., process imitation typically requires more systemic efforts than product imitation), or legally protected tend to decelerate imitation strategies.

The insights from our process model suggest that the contrasting

[7] It is worth noting that certain elements illustrated in Fig. 1 contribute to more than one phase of the SoI process, revealing important interrelationships between awareness, motivation, and capability. For example, target visibility and target similarity play dual roles: they enhance awareness by making a rival's actions more detectable and interpretable, but they also shape motivation, as visible and similar rivals are perceived as more informative or threatening, prompting faster response. Likewise, the number of previous imitators in an industry can increase awareness by signaling the presence of a salient competitive move, while also influencing motivation through social proof or perceived legitimacy of imitation. Rather than indicating conceptual redundancy, these overlaps underscore the interconnectedness of the AMC dimensions in real-world strategic decision-making. Our framework maintains these distinctions by focusing on how and why each factor exerts influence at different stages—e.g., visibility as a perceptual trigger in awareness, versus visibility as an indicator of information asymmetry in motivation. We see these cross-dimensional linkages not as limitations, but as evidence of the processual richness of SoI, where cues rarely operate in isolation but are interpreted through layered strategic logics.

findings regarding the motives for imitation under high versus low uncertainty, as noted by Lieberman and Asaba (2006), can be more coherently interpreted through the lens of the AMC framework—particularly in relation to SoI. The decision to rapidly imitate established rivals—such as market leaders—during periods of elevated uncertainty may be driven by a focal firm's awareness of those rivals' actions and the belief that these actors possess superior market intelligence. In such contexts, uncertainty does not necessarily deter action; rather, it can accelerate imitation speed as firms seek to reduce ambiguity by aligning quickly with perceived market-shaping competitors. However, the ability to translate motivation into timely action is conditional on internal capability. Without sufficient organizational flexibility, resource slack, or prior experience, even firms highly motivated to imitate may be unable to do so at speed, resulting in strategic hesitation or delayed execution. The AMC framework thus offers a dynamic interpretation of SoI under uncertainty, showing that variation in imitation speed arises not only from external pressures, but from the firm's capacity to convert awareness and intent into fast, coherent action.

The outcomes of imitation strategies pursued at different speeds are multifaceted, involving a dynamic interplay between the focal firm and its rivals. As illustrated in Fig. 1, these outcomes unfold as part of an action-reaction sequence, affecting both competitive and performance dimensions for all firms involved. Specifically, regarding strategic outcomes, from our review, we observed that SoI sets off a sequence of competitive responses, influencing the imitator's strategic positioning and prompting rivals to react. Quick imitation allows the focal firm to position itself as a differentiator and price leader; however, it also triggers aggressive counteractions from rivals, who may accelerate their own competitive response, for example, to emulate the success of rapid imitators, triggering Red Queen competitive imitation.

In terms of performance outcomes, Fig. 1 highlights how SoI affects the imitator's performance across various dimensions (e.g., sales, profitability, market share, survival rates). Rapid imitation can initially boost market share and profitability by capturing market opportunities early, yet it often comes with the trade-off of higher costs due to time-compression diseconomies. Overall, from our review, it emerges that the effect of SoI on the performance of the imitator is contingent upon imitator-, pioneer-, and industry-level factors (as detailed in Table 2). At the imitator level, the SoI-performance relationship is strengthened by factors like available resources, firm size, accumulated experience, and absorptive capacity. At the pioneer level, the SoI-performance relationship is weakened if the pioneer is also the market leader. At the industry level, quick imitation is better performing than slow imitation in conditions of high market unpredictability, high competitive intensity, as well as high pace of industry evolution. Rivals' performance is also influenced by the ongoing action-reaction cycle triggered by SoI. Our review reveals that while the differentiation advantage of rapid imitators is detrimental to laggard rivals, it does not significantly weaken their market value.

While our review highlights conditions under which SoI can affect the performance of the focal firm, it also reveals inconsistencies in empirical findings across studies. Some research suggests that rapid imitation improves market outcomes (e.g., Giachetti et al., 2017; Lee et al., 2000), while others report null or even negative effects on performance (Ethiraj and Zhu, 2008; Pentina et al., 2009). These divergent results can be more coherently interpreted through the lens of the action–reaction framework. Accordingly, the performance implications of imitation are contingent not only on whether firms imitate, but on when they do so, how effectively they execute, and how rivals respond. First, the timing of imitation—whether it aligns with a strategic inflection point or misses a critical opportunity—can significantly influence its effectiveness (Lee et al., 2000; Pacheco-de-Almeida and Zemsky, 2007). Second, performance outcomes hinge on a firm's internal capabilities to imitate efficiently: rapid imitation may open temporary advantages (Giachetti et al., 2017), but without sufficient executional capability, it may result in poor fit or costly missteps (Ethiraj and Zhu, 2008). Third, the speed and intensity of rivals' reactions shape the sustainability of performance gains (Giachetti and Li Pira, 2022; Pacheco-de-Almeida, 2010). Quick rival responses can neutralize or even reverse the advantages of early imitators. Finally, outcomes depend on the specific performance dimension under scrutiny: for instance, rapid imitation may temporarily boost sales (Giachetti et al., 2017) by seizing early demand, yet simultaneously depress profitability (Pentina et al., 2009) due to elevated costs associated with compressed decision and development cycles.

7.2. Implications for practice

Managers seeking to enhance their firm's strategic responsiveness through imitation must approach SoI as a deliberate, staged process shaped by interdependent decisions, temporal frictions, and competitive feedback loops. Leveraging SoI strategically means *orchestrating the velocity* of imitation in alignment with strategic priorities, internal capabilities, and environmental uncertainty. Viewing imitation through this processual lens reveals that SoI can be a variable to be modulated—strategically accelerated, delayed, or sequenced—depending on context.

The process begins with the *awareness* of the object and target to be imitated at a certain speed. Firms that imitate without clearly defined targets risk diluting competitive intent or misjudging the relevance of the move being copied (Sharapov and Ross, 2023). Equally relevant is clarifying the object of imitation. Imitation is most effective when the object is clearly observable, internally translatable, and strategically significant (Smith et al., 1992). Vague or ill-defined targets can introduce costly time lags during the evaluation and adaptation phases. These initial steps are often subject to latent lags, such as delays in interpreting market signals.

Next, *motivation* must be strategically grounded: some firms imitate to reduce ambiguity under volatile conditions, while others aim to match or counter specific threats (Lieberman and Asaba, 2006; Giachetti and Lanzolla, 2016). These motivations directly influence how speed is perceived—either as a hedge against uncertainty or as a means to protect strategic position.

Subsequently, firms must critically assess their *capability* to imitate at the desired speed. This involves more than having the right resources; it requires coordination, modular structures, absorptive capacity, and embedded routines that can activate quickly and at scale (Pacheco-de-Almeida et al., 2015). The imitation process can be strategically compromised if internal bottlenecks—such as decision-making delays or fragmented communication—extend the imitation lag beyond a point where competitive advantage can be retained.

In environments characterized by uncertainty, rapid imitation may minimize opportunity costs, but it can also expose the firm to premature action or insufficient learning (Ethiraj and Zhu, 2008). Conversely, firms that decide to postpone the imitative action may afford time to observe, adapt, and mitigate risk—but may also concede room for sustainable first-mover advantages. Managers must learn to modulate imitation speed, adjusting it considering their strategic intent, risk tolerance, and internal readiness.

Fast or slow imitation also carries second-order strategic consequences. A firm's imitative move—especially when fast and visible—can trigger competitive retaliation or provoke industry-wide shifts (Ferrier, 2001; Giachetti and Li Pira, 2022). Imitators may unintentionally escalate rivalry, prompting targeted responses from the original innovator or other market players. Anticipating these reactions is vital for maintaining competitive relevance, and thus, SoI should be embedded within broader strategic planning frameworks that include scenario analysis, pre-emptive countermeasures, and coordinated communication strategies.

7.3. Avenues for future research

7.3.1. Testing the intentionality behind SoI

By leveraging competitive dynamics, this study conceptualized existing literature on SoI as both the velocity dimension of the imitation process and a specific type of competitive response, clarifying the conditions necessary for this strategy to be defined as it is. Notably, we observed that extant SoI research rarely questions the intentionality behind SoI (despite a few exceptions, like Gaba and Terlaak, 2013). In other words, although all the papers in our review describe SoI as a deliberate strategic decision, we have very little knowledge of in which cases quick or slow imitations are indeed ascribable to intended strategic decisions and in which cases they instead occur by chance. Therefore, future studies might more comprehensively explore the deliberateness of SoI, differentiating between intentional and unintentional (accidental or incidental) SoI. In this regard, we encourage researchers to complement quantitative studies with qualitative ones, to capture in greater detail the mechanisms of the decisional processes leading to quick or slow imitations. For example, recent studies have examined the antecedents of imitation using a case study approach through in-depth interviews with top management teams (Peprah et al., 2022), something that could be examined and adapted to the analysis of SoI.

7.3.2. Testing the AMC dimensions of SoI from a microfoundations perspective

Our review highlights three complementary yet distinct facets of SoI: it depends on awareness, motivation, and capability. In other words, a firm (a) must first be aware of a specific object or target (MacMillan et al., 1985), (b) may in some cases deliberately "choose to wait" (Ethiraj and Zhu, 2008, p. 801) or, alternatively, be strongly motivated to accelerate imitation, and (c) must also possess the capability to enact rapid imitation (Jonsson and Regnér, 2009). Despite the conceptual recognition of these dimensions, we found no studies that directly assess these mechanisms empirically. In the empirical studies we reviewed, whether a firm imitated at a certain speed because it was aware of an object or target (awareness), motivated to act (motivation), or capable of doing so (capability) was typically inferred through proxies rather than examined directly. Scholars have operationalized these dimensions using variables collected from secondary sources—for example, indicators of object or target visibility for awareness, measures of environmental uncertainty and competitive structure for motivation, and firms' resource endowments for capability—but without directly asking managers about their underlying decision-making processes. As a result, the *microfoundations* (Teece, 2007) of SoI remain largely unexplored.

To determine whether an imitator was late because it lacked awareness of whom or what to imitate, lacked the capabilities to accelerate imitation, or because managers deliberately chose to wait, direct evidence from managers would be required. Future research could advance the field by qualitatively examining the microfoundations of the awareness–motivation–capability dimensions, how they interact, and how they become contingent on factors such as environmental uncertainty, competitive pressure, and resource constraints. Such an inquiry would contribute to a more granular understanding of the conditions under which imitation speed is shaped and realized.

7.3.3. SoI beyond industry boundaries

While we conceptualize SoI as occurring within the boundaries of an industry—where firms compete with similar others and imitation is most observable and strategically coherent—we recognize that this boundary condition is becoming increasingly fluid. Future research could relax this condition to explore how imitation speed operates across industry boundaries, especially as digital platforms, customer ecosystems, and service-based competition blur the lines between traditional sectors. Indeed, in many cases, products from different industries compete to fulfill overlapping customer needs. For instance, smartphones have displaced portable music players in serving mobile audio consumption, and high-speed rail competes with airlines for short-haul business travel, offering similar onboard services and convenience. In such cases, firms are both competing within their traditional industry lines and across them, also targeting functional substitutes. This raises compelling questions about how imitation strategies unfold in cross-industry competitive spaces.

7.3.4. Missing antecedents of SoI for each AMC dimension

From a competitive dynamics perspective, we organized the antecedents of SoI using the AMC framework, presenting them across four levels of analysis—imitator, target, object, and industry—for each of the three AMC dimensions. However, antecedents were not identified at all four levels for every AMC dimension, indicating potential avenues for future research.

Regarding a focal firm's awareness, existing literature reveals a gap in studies on imitator-level factors—specifically, the characteristics of the imitator that might enhance (or constrain) its awareness of a competitor's actions, thereby increasing its potential to engage in quick imitation. In this context, future research could investigate how a focal firm's *sensing capability*—its ability to detect changes and opportunities in its environment—could enhance its awareness of rival actions and, in turn, expedite its SoI. As Teece (2007) observed, "to identify and shape opportunities, enterprises must constantly scan, search, and explore across technologies and markets" (p. 1322). Extending the dynamic capabilities framework (Teece, 2007), future studies could explore how systematic scanning, searching, and exploration enable would-be imitators to quickly identify signals of competitive moves. Ultimately, studies could assess how variations in sensing capability affect a firm's ability to filter, prioritize, and act on competitive intelligence, potentially reducing the time needed to imitate effectively.

Relatedly, the literature exhibits a lack of studies on imitator-level factors that increase motivation to imitate at a specific speed. In this vein, future studies could investigate how distinct competitive orientations may enhance a focal firm's motivation to imitate swiftly. For example, *competitive aggressiveness* (Ferrier, 2001)—a firm's tendency to deploy a high volume and complexity of actions to outpace rivals—could positively influence an imitator's motivation to imitate quickly. As Ferrier (2001, p. 864) observes, "firms that carry out competitive attacks that, on average, consist of a greater number of competitive actions [...] are more likely to overwhelm rivals and delay their ability to launch counterattacks." Competitive aggressiveness, in turn, may accelerate the pace at which imitation is carried out.

Another interesting motivator for rapid imitation at the imitator level, which is currently missing in the extant SoI literature, lies in the *agency problem*, where managers' own interests may conflict with the long-term goals of the firm (Eisenhardt, 1989). Managers might be incentivized to imitate quickly in order to demonstrate action to principals, signaling, for instance, that they are adopting the latest product innovations—even if this approach conflicts with the firm's long-term strategy and profitability goals. This is particularly true when managers' performance-based incentives—such as bonuses or career progression—are tied to short-term outcomes like market share or revenue growth. While rapid imitation of rivals' innovation may offer immediate gains, it can also be risky for the firm's long-term profitability. Motivated by short-term targets, managers might prioritize quick imitation to meet shareholder expectations, even if this undermines the firm's sustainable competitive advantage.

Turning to the capability for rapid imitation, our review reveals that research on the firm-specific capabilities enabling swift imitation remains limited. To this end, future studies could analyze how *transformative capabilities*—those that enable a firm to adapt and restructure its resources and processes in response to competitor actions—might facilitate quick imitation. Within the dynamic capabilities framework, transformative capabilities encompass not only the adaptation of existing assets but also the reconfiguration of organizational routines and structures to support swift, effective responses (Teece, 2007). Future

research could explore how these capabilities help firms streamline internal decision-making, optimize resource allocation, and adjust processes in real-time to respond to competitive signals, thus reducing the response lag in imitation efforts. For instance, studies might investigate how transformative capabilities impact a firm's ability to mobilize and coordinate resources across departments, swiftly reorienting toward imitation to maximize speed and minimize delays.

Furthermore, despite the important advancements provided by the study by Zander and Kogut (1995), there remains a shortage of research on target-level factors as potential enablers or barriers to rapid imitation. For instance, when a rival that a focal firm aims to imitate maintains high levels of *secrecy* around its strategic innovations or market moves, the difficulty of imitation increases significantly. This secrecy restricts access to relevant information about the rival's operational processes, technologies, and strategic shifts, delaying the imitator's ability to accurately assess and replicate these actions (Ross et al., 2023). As secrecy intensifies, firms attempting imitation must invest greater resources into intelligence gathering, which, in turn, extends the time needed to imitate. Additionally, identifying target-level factors that impact the SoI can be further explored by integrating insights from the literature on isolating mechanisms. For example, drawing on competitive dynamics research, Sharapov and MacAulay (2022) recently developed a framework that theorizes how certain design choices in the way knowledge is manifested—such as in routines, prototypes, or finished products—can strategically hinder a counterparty's ability to replicate knowledge related to a focal innovation. Their work highlights that design itself can serve as an isolating mechanism, not only by concealing core elements but also by embedding deliberate design-related barriers to obstruct imitation. This perspective has relevant implications for SoI, suggesting that innovators might have the capabilities to design knowledge that is less accessible or translatable to rivals. Such isolating mechanisms can slow down imitators by embedding knowledge within processes or incomplete prototypes, thus requiring imitators to invest more time and resources to reverse-engineer the innovation.

Likewise, although no studies have emerged on industry-level factors that enhance or undermine a firm's capability to pursue rapid imitation, we see significant potential for future research in this area. For instance, little is known about SoI in contexts characterized by a lack of market-supporting institutions (Peprah et al., 2022), where the absence of contract-enforcing mechanisms, specialized intermediaries, and efficient communication networks increases transaction costs and hampers the ease with which market players interact. Such contexts may create external barriers to imitation, and thus affect the time it takes for a firm to reproduce what rivals have done. Therefore, drawing from the institution-based view of strategy (e.g., DiMaggio and Powell, 1983; Haunschild and Miner, 1997), future research could explore how the presence of strong or weak market-supporting institutions affects industry rivals' SoI, and under which circumstances certain organizational forms are imitated more quickly depending on the institutional context. This would help to uncover the heuristics and cognitive frames managers use to decide to pursue quick imitations in response to pressure from rivals, and how the institutional environment shapes these decisions.

7.3.5. *Missing outcomes of SoI from an action-response perspective*

In examining the outcomes associated with SoI, much of the existing literature has primarily focused on the performance outcomes of imitators. However, we identified a notable gap in studies addressing how SoI impacts (a) the strategic positioning of the imitator, (b) the strategic response of rivals, and (c) the performance outcomes of rivals.

Regarding the strategic positioning of the imitator, most existing research has concentrated on how SoI influences the imitator's pricing strategies. However, as discussed by competitive dynamics scholars, strategic positioning goes beyond just pricing decisions (e.g., Smith et al., 1991, 1992), and may consist "of a broad range (as compared to a narrow range) of different action types (Ferrier, 2001, p. 866). For instance, rapid imitation might lead the imitator to shift its product development strategies or alter its market segmentation approach. By quickly adopting the latest features from competitors, imitators could reframe their product offerings, potentially changing their brand positioning or market focus. Additionally, such moves may affect their alliances, especially as firms might collaborate to enhance their ability to imitate or expand their competitive reach. These are all strategic positioning elements that could facilitate a bridge between the SoI literature and studies on strategic groups (e.g., Smith et al., 1997). Expanding the focus to these dimensions would allow for a deeper understanding of how SoI influences the imitator's overall strategic positioning.

On the other hand, when considering the strategic response of rivals to SoI, much of the literature has focused on their imitative responses. As Lieberman and Asaba, 2006, p. 380) pointed out, "rivalry-based imitation often proceeds over many rounds, where firms repeatedly match each other's moves." Since imitation might erode rivals' performance, especially if the imitation is conducted rapidly (Pacheco-de-Almeida, 2010), it could also elicit rivals' counter-imitative actions (Giachetti et al., 2017). However, what the literature has overlooked is that rivals may also adopt other strategic actions in response to imitation. For example, rivals could engage in preemptive moves, such as increasing R&D investments, diversifying their product lines, or focusing on marketing strategies to reinforce their market positions against imitation. These moves would reflect broader strategic adjustments, not just a reactive imitative response, and could provide more comprehensive insights into how firms adjust their strategies to maintain competitiveness. Drawing from competitive dynamics literature, future studies could explore how rival firms modify their "repertoire of competitive actions" (Ferrier, 2001, p. 859) in response to the focal firm's SoI of their strategy.

Additionally, while numerous studies examine whether SoI impacts the focal firm's performance—many of which suggest a positive link—some research also indicates a negative relationship, with mixed findings, particularly in terms of revenue and market share (see Table 2). Integrating insights from the first-mover advantage literature may expand our understanding of SoI's impact on the performance of imitators and innovators. For instance, the first-mover advantage literature highlights how barriers to imitation, such as patents, strong brand recognition, and complex technologies, can protect a first mover's position by slowing down imitators, giving the first mover time to strengthen its market foothold (Cappelli et al., 2023; Makadok, 1998). Understanding how these barriers operate could allow imitators to develop strategies to bypass them, accelerating imitation and potentially boosting their own sales and profitability.

CRediT authorship contribution statement

Marco Balzano: Writing – review & editing, Writing – original draft, Software, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Claudio Giachetti:** Writing – review & editing, Writing – original draft, Software, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Online Appendices. Supplementary data

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Data availability

This literature review study is based exclusively on previously published research. All details regarding the sampled studies, selection criteria, and coding procedures are reported in the main text and in the online supplementary materials.

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Research Policy

Revisiting speed of imitation from a competitive dynamics perspective

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Online appendices

Online Appendix A: Deriving the Five Necessary Conditions for Speed of Imitation

The five necessary *conditions* for qualifying SoI were derived following a number of steps that are schematically outlined below:

1. **Conceptual exploration of competitive response speed and identification of core dimensions*:***
   We began by analyzing a broad spectrum of competitive responses made at a certain velocity. The goal was to understand useful *dimensions* that characterize a competitive response speed. By drawing on the competitive dynamics literature (Chen and Miller, 2012, 2015; Kolev et al., 2025; Smith et al., 1991, 1992), we identified five core *dimensions*:
   a. *Intentionality*: The response must be a deliberate decision by the firm. If the intentionality behind a competitive response is missing, the action cannot be considered strategically competitive. Intentionality ensures that a firm's response is purposeful and specifically aimed at addressing a competitor's action. Without intentionality, the response lacks competitive intent—the deliberate aim to engage in competition.
   b. *Target of the response*: There must be a direct rival that the response is directed toward. Without such a clear target, the action lacks strategic rivalry, diluting its relevance to competitive dynamics and potentially reflecting a shift toward a generic market adjustment rather than a deliberate competitive effort.
   c. *Industry boundaries*: The competitive response must occur within the same industry as the target's initial action. An action directed toward a target outside the industry boundaries cannot be considered a competitive response toward such a target. Actions across industries fall outside the scope of direct rivalry and do not address the competitive dynamics at play.
   d. *Object of the response*: What the object of the response is (i.e., how the firm responds). The firm's reaction to a specific competitive action may involve an object type that is either similar to or different from the initial action. For instance, a firm might respond to a competitor's price reduction by offering enhanced services rather than lowering its own prices.
   e. *Response lag*: The time elapsed between the initial action and the subsequent response. A measurable response lag allows for the evaluation of how quickly the firm reacts within the competitive context. Without a defined and observable timeframe, determining whether the response meets the criteria for competitive response speed and effectively engages with the competitive dynamics becomes unfeasible.

   These *dimensions* provide a structured framework for evaluating the nature of competitive response speed.

2. **Impact of misaligned dimensions*:***
   When the *dimensions* do not align in the manner expected for SoI, which we qualify as a specific type of competitive response and a particular imitation strategy, distinct alternative strategy types emerge:

a. *Absence of intentionality → Accidental isomorphism*
   Even when the response is directed toward a clear industry target and replicates its action within a measurable time frame, the lack of intentionality means the focal firm is not a would-be imitator but instead replicates the object by chance.
b. *Absence of a clear target → Diffusion*
   Even if the focal firm replicates an object introduced by others within a measurable time frame, the lack of a clear imitation target transforms the action into the adoption of an object introduced by ambiguous first movers (e.g., an industry standard), reflecting diffusion rather than imitation.
c. *Absence of industry boundaries → Imitation outside the competitive context*
   Targeting an extra-industry firm by replicating, within a measurable time frame, an object it introduced does not qualify as a direct competitive response within the industry.
d. *Absence of object comparability → Non-imitative response*
   If the focal firm responds to a clear industry target within a measurable time frame, but the object of the response lacks comparability, the action cannot be classified as imitative.
e. *Absence of response lag → Imitation as a binary choice*
   Even if the response qualifies as an imitation of the object introduced by a given target within the industry, without time-based estimates, it is not possible to assess the SoI.

3. **Emergence of key necessary conditions*:***
   The specific alternative outcomes outlined above suggest the emergence of necessary conditions that must be met to qualify a response as SoI. These conditions are:
   a. *Would-be imitator*: The firm intentionally replicates a competitor's action.
   b. *Imitation target*: The firm has a clear target to imitate (a direct rival).
   c. *Imitation within industry boundaries*: The firm imitates a target within the same industry.
   d. *Comparable object*: The firm responds by introducing an object that closely matches or is equivalent to the one introduced by the target.
   e. *Imitation lag*: The timing of the imitative response is measurable.

Online Appendix B: Details of Methodological Approach

Part A: Keywords

Imitation-related keywords

conformity
copy
duplication
emulation
imitation
inimitability
mimicry
replication
reproduction

Speed-related keywords

acceleration
delay
duration
fast
interval
order of
pace
quick
rapid
rate of
response lag
slow
speed
speedup
tempo
time
time lag
time to
timing
velocity

Part B: Initially pooled journals

Academy of Management Journal
Academy of Management Review
Administrative Science Quarterly
Industrial and Corporate Change
Journal of Economics and Management Strategy
Journal of International Business Studies
Journal of Management
Journal of Management Studies
Long Range Planning
Management Science
Organization Science
Research Policy
Strategic Entrepreneurship Journal
Strategy Science
Strategic Management Journal

Part C: Search code

Scopus abbreviations: TITLE-ABS-KEY is "Title, Abstract, or Keywords"; ISSN is "Journal by International Standard Serial Number".

TITLE-ABS-KEY ("imit*" OR "mim*" OR "copy*" OR "conform*" OR "inimit*" OR "emul*" OR "replic*" OR "reprod*" OR "duplic*") AND TITLE-ABS-KEY ("speed*" OR "time to" OR "time" OR "rate of" OR "pac*" OR "time lag*" OR "response lag*" OR "order of" OR "timing*" OR "fast" OR "slow*" OR "quick*" OR "veloc*" OR "accel*" OR "tempo" OR "durat*" OR "rapid" OR "delay*" OR "interval*") AND TITLE-ABS-KEY("resource" OR "capability" OR "real option" OR "risk" OR "uncertainty" OR "strategic human capital" OR "resource allocation" OR "resource" OR "reconfiguration" OR "resource redeployment" OR "positioning" OR "value creation" OR "value capture" OR "appropriation" OR "entrepreneurship" OR "business model" OR "industry evolution" OR "growth" OR "competition" OR "competitive" OR "rivalry" OR "strategy" OR "strategy process" OR "strategic decision" OR "performance feedback" OR "diversification" OR "vertical integration" OR "outsourcing" OR "business groups" OR "M&A" OR "global" OR "entry" OR "exit" OR "divestiture" OR "joint venture" OR "alliances" OR "TMT" OR "corporate governance" OR "leadership" OR "organizational learning" OR "knowledge" OR "exploration" OR "exploitation" OR "search" OR "innovation" OR "R&D" OR "technological change" OR "platform" OR "ecosystem" OR "collaboration" OR "networks" OR "organizational structure" OR "organizational change" OR "CSR" OR "stakeholder") AND ISSN ("0001-4273" OR "0363-7425" OR "0001-8392" OR "0960-6491" OR "1058-6407" OR "0047-2506" OR "0149-2063" OR "0022-2380" OR "0024-6301" OR "0025-1909" OR "1047-7039" OR "0048-7333" OR "1932-4391" OR "2333-2050" OR "0143-2095")

Part D: Application of inclusion/exclusion criteria and review flowchart

This section explains how we applied the five inclusion/exclusion criteria to arrive at the final set of 40 articles, beginning with the 647 results obtained from the search code presented in Part C, which we first ran in Scopus. This number was then extended to 658, as 11 articles were added when we adapted the query for use in other databases. It is worth noting that the five criteria were not all defined from the outset; instead, they progressively emerged as we deepened our understanding of the topic during the review process.

First of all, it is important to remember the five inclusion/exclusion criteria that guided our analysis:

- The study should be rooted in the imitation literature, with an explicit focus on SoI as a deliberate strategic decision.
- The study should clearly specify "who" is being imitated at different speeds (i.e., the target of imitation).
- The target should operate in the same industry as the focal firm, since this contextualizes imitation within a competitive landscape.
- The study should explicitly identify the object of imitation, allowing for an examination of "what" is being imitated.
- The study should capture a temporal dimension related to imitation decisions—specifically, "how quickly" firms act in response to a target's actions. For empirical studies, we included those that explicitly capture the imitation speed. Similarly, for non-empirical studies, we focused on works that explicitly discuss the role of being quick or late in imitating rivals.

Below, we present the various steps used to narrow down the final set of articles:

Step 1 – Removal of out-of-scope articles
We first removed (n = 499) articles that were clearly out of scope—that is, both unrelated to "imitation" and "speed of action." These included articles that were too thematically distant and not reported in Table 1. This initial filtering yielded 159 articles.

Step 2 – Excluding articles based on two main predefined criteria
From these 159 articles, we began by excluding papers according to the two core criteria that were clear from the start:

- *Imitation as a binary choice* – Articles addressing imitation only as a yes/no decision, without considering the speed of imitation in particular (87 articles).
- *Non-imitative competitive response* – Articles discussing the speed of competitive responses that were not imitative in nature (36 articles).

These two categories correspond to types of articles that we were not looking for but that appeared in the Scopus results.

Step 3 – Adding the "speed of diffusion without a reference target" criterion
We then noticed another group of papers in which there was some form of replication speed but without a clear target of imitation. These were, in fact, about the speed of diffusion rather than imitation per se. To exclude this type of articles, we introduced a third criterion:

- *Diffusion (quick or slow)* – Articles discussing the speed of diffusion, that is, without specifying which actors firms were imitating (7 articles).

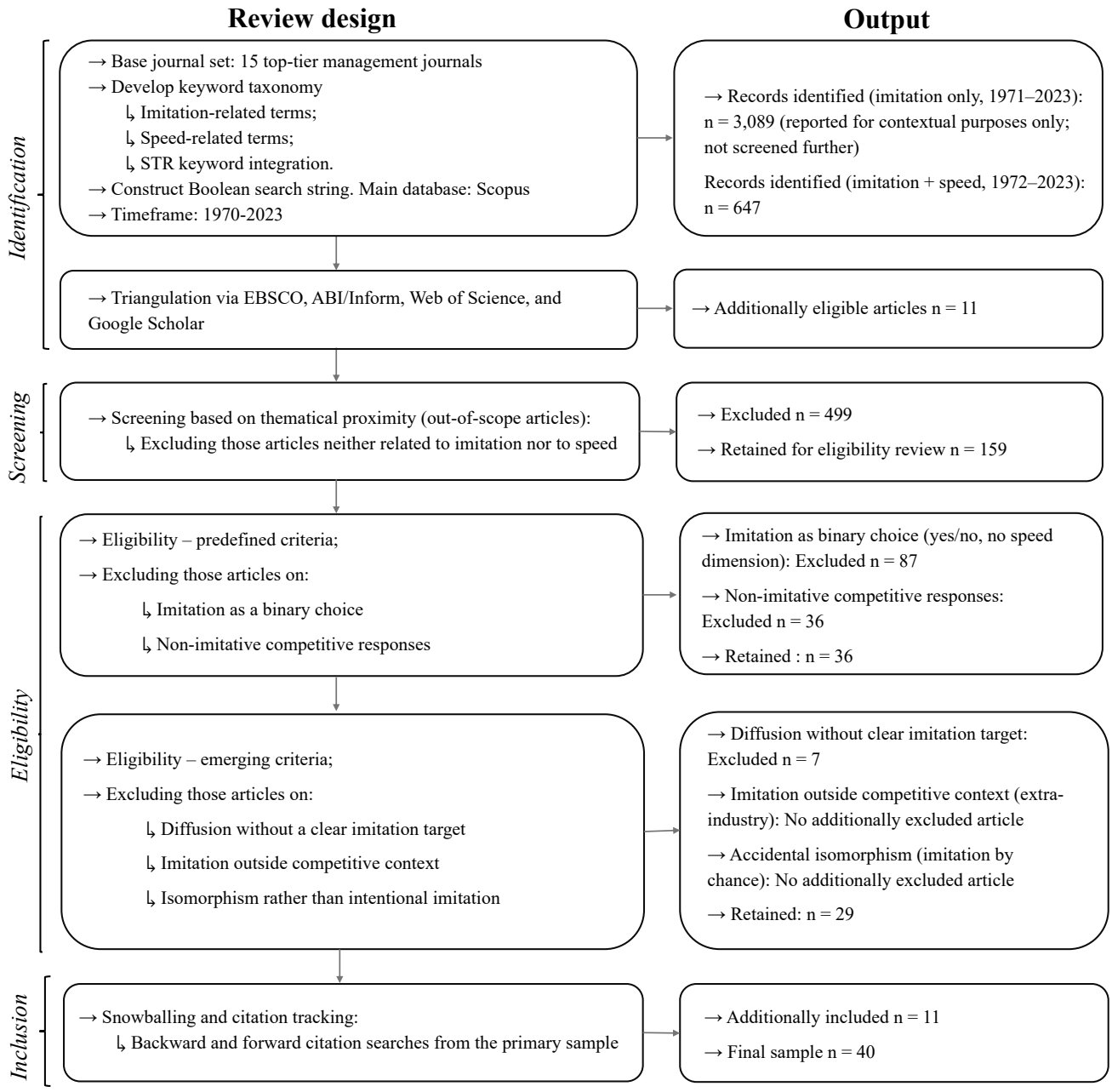
Step 4 – Additional criteria emerging during coding
Two additional criteria emerged only after we began coding the articles in depth:

- *Imitation outside the competitive context* – Articles examining imitation where the target was outside industry boundaries, thus lacking a competitive-dynamics perspective. In practice, only one article was excluded based on this criterion when we cleaned the sample of articles addressing imitation solely as a yes/no decision (step 2).
- *Accidental isomorphism* – Articles focusing on similarity across organizations arising by chance (rather than intentional imitation). Although we consider this criterion important, we did not identify any empirical papers that explicitly test intentional versus unintentional SoI.

Step 5 – Final sample
After applying these filters, we retained 29 articles from the initial search results from Scopus and alternative academic databases. We then added 11 further articles identified through backward and forward citation tracking, resulting in a final sample of 40 articles.

Figure B1 illustrates our review flowchart.

Figure B1. Review flowchart



Part E: Number of sampled articles per journal

Our final sample consists of 40 articles published in 20 journals, listed below with the number of selected articles indicated in parentheses:

Strategic Management Journal (10)
Academy of Management Journal (4)
Administrative Science Quarterly (3)
Journal of Management Studies (3)
Organization Science (3)
Journal of Marketing (2)
Research Policy (2)
Asia Pacific Journal of Management (1)
Econometrica (1)
Harvard Business Review (1)
Journal of Business Venturing (1)
Journal of International Business Studies (1)
Journal of Management (1)
Journal of Operations Management (1)
Journal of World Business (1)
Long Range Planning (1)
Management Science (1)
Review of Managerial Science (1)
Journal of Retailing (1)
Strategic Organization (1)

Online Appendix C: Details of Sampled Articles on Antecedents and Outcomes of Speed of Imitation

Table C1. The antecedents of speed of imitation

Article	Industry (Observation period) [Geographic Area(s)]	Object (Target) of Imitation [Theoretical Perspective]	Key Findings	Measure of Imitation Speed (Estimation Techniques)
Mansfield (1961)	Bituminous coal, iron and steel, brewing, and railroad (1890-1958) [multiple]	New technologies (pioneer) [technological change and diffusion theory]	SoI of new technologies is positively influenced by the number of previous adopters and expected profitability for each technological innovation, while it is negatively influenced by high required investments for each technological innovation.	Years elapsed between the introduction of a new technological innovation and its imitation by the focal firm (deterministic and stochastic models)
MacMillan et al. (1985)	Banking (1965-1980) [United States]	New products (pioneer) [organizational decision-making and competitive strategy]	SoI of new products is positively influenced by the extent to which the new product is visible and perceived to attack a strategic market by the focal firm, while it is negatively influenced by the radicality and complexity of each new product launched by rivals, misfit with the organization, and focal firm organizational inertia.	Months elapsed between the initial introduction of a new product by the pioneer and its imitation by the focal firm (OLS regressions and correlation analysis)
Mitchell (1989)	Medical diagnostic imaging (1896-1988) [United States]	Entry in an emerging subfield (pioneer) [technological change]	Speed of imitative entry in an emerging subfield by a focal firm is positively influenced by competitive threats faced by the focal firm in its existing industry, the number of firms possessing industry-specialized assets that have already entered each emerging subfield, and the possession of industry-specialized assets by a focal firm.	Number of years that a focal firm waited before entering an emerging subfield pioneered by another firm (accelerated event-time and logistic regressions)
Zander and Kogut (1995)	Industrial markets (Innovations occurring after 1960) [Swedish innovators; imitators from various foreign countries]	New product or technology (pioneer) [knowledge and organizational capabilities]	SoI is positively affected by high employee turnover in the pioneer firm, negatively affected by the pioneer's continuous development efforts, and not significantly influenced by the possession of proprietary or outsourced equipment, nor by the complexity, codifiability, teachability, or system dependence of the pioneer's capabilities.	Years elapsed between the initial introduction of an innovation by a pioneer and its imitation by the focal firm (hazard models)
Greve (1996)	Radio broadcasting (1984-1993) [United States]	New market positions (social reference groups) [institutional theory, population ecology, and herd behavior theory]	SoI in the adoption of a new market position by a focal firm is positively influenced by the social proximity between the focal firm and prior adopters.	Months elapsed between the introduction of a new market position by the first adopter and its subsequent adoption by the focal firm (hazard models)

Henisz and Delios (2001)	Manufacturing (1990-1996) [Japan]	Foreign plant locations (home country vs foreign country firms, business groups) [institutional theory]	SoI in a foreign country market entry is positively influenced by the number of prior entries, and this effect is more pronounced when entries are by home-country rivals. Moreover, SoI is positively influenced by international experience, while it is negatively influenced by uncertainty about future regulations in the target country. The SoI is further increased the lower the imitator's specific experience in the target country.	Indicator variable that every year takes a value of 1 if the focal firm locates a manufacturing plant in a given country, and 0 otherwise (discrete time logit)
Cohen et al. (2002)	Manufacturing (1980s-1994) [Japan and US]	Processes and products (pioneer) [R&D spillovers and appropriability]	SoI is greater in the adoption of new products than in the adoption of new processes. Also, SoI is greater when products and processes are not patented.	Average time in years it takes to imitate new products and processes pioneered by others (survey of R&D managers, t-tests)
Damanpour and Gopalakrishnan (2002)	Commercial banks (1982-1993) [United States]	New products and processes (prior movers) [technological change and product life cycle]	SoI is greater in the adoption of new products than in the adoption of new processes.	Average number of years it takes for a focal firm to adopt innovations previously introduced by industry rivals (t-tests)
Guillén (2002)	Manufacturing (1987-1995) [Asia]	Foreign market entry (business groups) [institutional theory]	SoI in foreign market entry is positively influenced by the number of previous entries from firms in the same business group and the number of entries by the focal firm's home country rivals. These relationships are moderated by a firm's age.	Indicator variable that every month takes a value of 1 if the entry occurs in a given country, and 0 otherwise (hazard models)
Lee et al. (2003)	Brewing, telecommunications, and personal computer (1975-1990) [United States]	New products (pioneer) [institutional and bandwagon theories]	SoI of new products is positively influenced by the radicality of each new product launched by rivals and the expected scope of the customer base.	Days elapsed between the introduction of new products by pioneers and their adoption by the focal firm (hazard models)
Gimeno et al. (2005)	Telecommunications (1985-1995) [United States]	Foreign market entry (prior movers) [competitive dynamics]	SoI in foreign country market entry is positively influenced by its market share in the domestic country and by the degree of similarity in market share between a focal firm and its domestic country rivals.	Indicator variable that every month takes a value of 1 if the entry occurs in a given country, and 0 otherwise (event history models)
Gielens and Dekimpe (2007)	Grocery retailers (1989-2002) [14 European countries]	Foreign market entry (same-format vs. different-format retailers, i.e., type of distributional channel) [market entry]	There are inverted U-shaped relationships among SoI in market entry and (i) the number of home firms in a market, (ii) the number of same-format firms in a market, (iii) the intensity of foreign firms in each market. Also, SoI in market entry is positively influenced by the number of different-format firms already operating in each market, a	Number of years it takes for the focal firm to adopt a distribution format initially introduced by rivals (sequential hazard regression models)

			firm's prior entries in culturally similar markets, and a firm's international experience.	
Pacheco-de-Almeida and Zemsky (2007)	Duopoly setting in time-compression diseconomies	Resources (market leader) [resource-based view and industrial organization]	The SoI of resources by a focal firm is positively influenced by the value of the resource, information flows, and expected revenues from imitation. In contrast, it is negatively affected by the complexity of resource development and the cost of capital for the imitator.	Time elapsed between initial resource development by the market leader and its imitation by the focal firm (mathematical model)
Delios et al. (2008)	Publicly listed manufacturers (1980-2002) [Japan]	Foreign plant locations (home country and foreign country firms) [sociological-based information and economics-based competitive rivalry theories]	SoI in a foreign country market entry is positively influenced by the number of previous entries by all other firms from the same home country of the focal firm, the concentration rate of the focal firm's industry in its home country, the focal firm's international experience, and the previous entrants' international experience. In contrast, it is negatively influenced by the rivals' marketing capabilities and the number of prior entries by rivals. The SoI is further increased the lower the concentration in the imitator's existing industry.	Indicator variable that every year takes a value of 1 if the focal firm locates a manufacturing plant in a given country, and 0 otherwise (event history models)
Rose and Ito (2008)	Automotive (1957-1993) [Japan]	Foreign market entry (domestic rivals) [market entry]	SoI of a foreign market entry is negatively influenced by the number of domestic firms in the foreign country.	The logarithm of the number of years (plus one) that elapsed between the establishment of the first subsidiary in a country by a rival and the establishment of a subsidiary in the same country by the focal firm (accelerated event-time regressions)
Jonsson and Regnér (2009)	Mutual funds (1959-2000) [Sweden]	New products (pioneer) [institutional theory]	The fit with dominant norms positively influences SoI of new products, while it is negatively influenced by how much a focal firm is invested in a professional group for which the strategic move is counter to professional norms. Also, the SoI for socially responsible investment funds by union-owned firms is greater than that of privately or governmentally held firms.	Days elapsed between the introduction of new products by a pioneer and their subsequent introduction by the focal firm (survival analysis and parametric regressions)

Simon and Lieberman (2010)	Magazine (1996-2001) [multiple]	Website adoption (prior adopters) [learning and technology adoption]	The number of prior adopters positively influences the SoI of new technologies.	Months elapsed between the initial launch of a website by first adopters and its subsequent adoption by the focal firm (discrete-time hazard models)
Haleblian et al. (2012)	Various industries (1984-2004) [multiple]	Merger activities (pioneer) [competitive dynamics]	The speed of imitative actions within a merger wave is positively influenced by technology and marketing capabilities, resource slack, and prior profitability of the focal firm. In contrast, it is negatively influenced by focal firm size and product diversification by the focal firm.	Days elapsed between the first acquisition announcement by a firm and the subsequent acquisition announcement by the focal firm (Tobit and fixed-effects regressions)
Gaba and Terlaak (2013)	Private venture capital firms in various industries (1980-2008) [United States]	Exit decisions (prior movers) [exit decisions]	The number of prior exits from investment activities positively influences SoI in exit decisions. A firm's performance volatility strengthens this relationship, while it is weakened by market volatility and uncertainty about rivals' actions. The SoI is further increased by the imitator's performance volatility, while decreased by great market volatility and high uncertainty about rivals' actions.	Indicator variable that every year takes a value of 1 if the focal firm exits from investment activities after industry rivals have done so, and 0 otherwise (hazard models)
Hsieh and Vermeulen (2014)	Pharmaceutical and computer hardware (1992-2005) [China and Taiwan]	Foreign market entry (direct rivals) [market entry and multimarket competition]	SoI in foreign market entry is positively influenced by the extent to which a focal firm's direct rivals compete directly with each other, have small footholds in each other's markets, and the number of prior rivals' entries. SoI is negatively influenced if direct rivals have similarly high stakes in the same markets.	Indicator variable where every year takes a value of 1 if the focal firm enters the new market, and 0 otherwise (hazard models)
Li and Parboteeah (2015)	Various industries (1985-2003) [China]	Foreign market entry (pioneer) [institutional theory]	SoI in foreign market entry by a focal firm is positively influenced by collectivism (as opposed to individualism) and power distance.	Days elapsed since the first entry in a market by a rival and the entry in the same market by the focal firm (Cox proportional hazard models)
Giachetti and Lanzolla (2016)	Mobile phones (1997-2008) [United Kingdom]	New product technologies (market leader, strategic groups) [information-based imitation, rivalry-based imitation, and product life cycle]	SoI increases the higher the product diffusion in the market. SoI of new product technologies is positively influenced by the fact that the pioneer is also the market leader or a firm that belongs to the focal firm's strategic group. SoI is greater in the adoption of substitute technologies than new functionality-defining technologies.	Months elapsed between the introduction of a new product technology by a technology pioneer and the adoption of the same technology by the focal firm (OLS regressions and hazard models)

Fuad and Sinha (2017)	Various industries (2000-2014) [United States]	Merger activities (pioneer) [resource-based view]	SoI in the entry into a merger wave is positively influenced by the degree of internationalization of the acquiring firm. Speed of imitative entry positively influences the post-acquisition ROA of the acquirer. The SoI is further increased if the imitator is affiliated with a business group.	Days elapsed between the first acquisition announcement by a firm and the subsequent acquisition announcement by the focal firm (Tobit and OLS regressions)
Ozalp and Kretschmer (2019)	PC video game industry (1991-2010) [United States]	New product entry (rivals in a market niche) [information-based imitation, experiential learning]	Niche density is positively correlated with SoI in product entry. The imitator's prior niche experience weakens this relationship. Moreover, a firm's prior experience in a niche with a trailblazer (i.e., a successful and influential product) positively affects SoI if the niche has relatively few competing products. The SoI is further increased the greater the imitator's prior experience in a niche with a trailblazer and the lower the imitator's prior niche experience.	Indicator variable that every year takes a value of 1 if the focal firm enters a market niche previously pioneered by others, and 0 otherwise (fixed-effects conditional logit)
OuYang et al. (2019)	Automotive (2011-2013) [China]	New products (pioneer) [market entry]	SoI in product market entry is negatively influenced by the product line breadth of the focal firm, and high levels of market uncertainty weaken this relationship. The SoI further increases the lower the market sales volatility.	Years elapsed since the introduction of new products (OLS regressions)

Table C2. The outcomes of speed of imitation

Article	Industry (Observation period) [Geographic Area(s)]	Object (Target) of Imitation [Theoretical Perspective]	Key Findings	Measure of Imitation Speed (Estimation Techniques)
Levitt (1966)	Product firms with well-structured R&D departments (1960s)	New products and technologies (pioneer) [product innovation management]	A focal firm's SoI of new products and technologies positively influences its profitability.	Time elapsed between the first introduction of new products and technologies by the pioneer and their imitation by the focal firm; order of imitation (informal survey)
Lawless and Anderson (1996)	Microcomputer (1982-1991) [United States]	New technologies (pioneer) [technological change]	SoI in the adoption of new technologies positively influences the market share of a focal firm.	Years elapsed between the first introduction of new technologies by the pioneer and their imitation by the focal firm (OLS regressions)
Smith et al. (1997)	Domestic airlines (1978-1986) [United States]	Actions (between and within strategic group firms) [competitive dynamics]	Speed of tit-for-tat imitative actions (i.e., reactions to the same type of actions) negatively influences a focal firm's propensity towards price-cutting actions.	Number of days it took a firm to replicate a rival's action (MANOVA and correlation analysis)
Makadok (1998)	Money market mutual fund (1972-1991) [multiple]	New product categories (pioneer) [first-mover advantage]	Speed of imitative entry in new product categories positively influences the market share of a focal firm, and positively impacts the price level that a focal firm can set.	Ascending order of entry in new product categories (simultaneous-equation estimations)
Lee et al. (2000)	Long-distance telecommunications, personal computers, and brewing (1975-1990) [United States]	New products (pioneer) [first-mover advantage]	The speed of new product imitation positively influences the shareholder returns of the focal firm.	Days elapsed since the introduction of new products (regression models and event study)
Durand and Coeurderoy (2001)	Manufacturing [France] (1993-1996)	New technologies (pioneer) [competitive dynamics and first-mover advantage]	When environmental uncertainty is high, the SoI of new technologies introduced by a pioneer positively influences the firm performance of a focal firm. The performance is further strengthened the higher the market unpredictability.	Ascending order of firms adopting new technologies (multiple regressions)
Carow et al. (2004)	Listed firms in various industries (1979-1998) [United States]	Merger activities (pioneer) [first-mover advantage and resource-based view]	SoI in acquisitions within a merger wave positively influences the total shareholder returns coming from the acquisition.	Categorization based on the ascending order of firms carrying out imitative actions within a

				merger wave (multivariate regressions)
Lee and Grewal (2004)	Store-based retailers (1992-2000) [multiple]	Online channel adoption (pioneer) [first-mover advantage]	SoI in the adoption of the Internet as a communication channel positively influences Tobin's *q* measure of performance for the focal firm. The great resource slack of the focal firm strengthens this relationship.	Number of years between the first industry retailer that launched the Internet as a communication channel and the adoption of such channel by the focal firm (random and fixed effect models)
Pacheco-de-Almeida and Zemsky (2007)	Duopoly setting in time-compression diseconomies	Resources (market leader) [resource-based view and industrial organization]	On the one hand, SoI positively influences focal firms' revenues, while on the other hand, it negatively influences market leader's revenues.	Time elapsed between initial resource development by the market leader and its imitation (mathematical model)
Sinha and Noble (2008)	Metalworking and engineering (1981-1986) [United Kingdom]	Radical manufacturing technologies (pioneer) [technological change]	SoI in the adoption of radical manufacturing technologies introduced by an industry pioneer positively influences the likelihood of survival of the imitating firm.	Number of years between a technology was first introduced by a pioneer and the subsequent adoption by the focal firm (hazard models)
Ethiraj and Zhu (2008)	Branded Drugs (1994-2004) [United States]	New products (pioneer) [market entry]	SoI of new products negatively influences the relative sales performance of the focal imitating firm relative to the imitated rival. This relationship is positively mediated by the relatively greater product differentiation by the focal firm.	Years elapsed between the Food and Drug Administration approval date of the innovator drug and the approval date of the imitator drug (probit choice models)
Pentina et al. (2009)	Bricks-and-mortar store-based retailers (1996-2006) [United States]	Online channel adoption (pioneer) [first-mover advantage]	SoI of the online channel negatively influences the market share, the net income, and the gross margin of the imitator. These relationships are moderated by the size, the portfolio experience, and the industry experience of the imitator.	Number of years elapsed between when the first retailer in the sample adopted the online channel and the focal firm's subsequent adoption of the same channel (cross-sectional time-series regressions)
Pacheco-de-Almeida (2010)	Online dating (mid-1990s-2000s)	Services (market leader) [hyper-competition and competitive advantage]	In industries characterized by hypercompetition, in which rivals rapidly imitate each other, the market leader is likely to self-displace itself from industry leadership, by allowing rivals to rapidly imitate its strategic decisions without investing resources to retaliate aggressively.	Time elapsed between pioneering actions by the market leader and their imitation (historical analysis; mathematical model)
Su et al. (2015)	Manufacturing (1995-2007)	Adoption of ISO management standards	SoI of the adoption of the ISO 14001 positively influences ROS and ROA of the focal firm. The performance is further	Years elapsed between the first obtainment of the ISO 14001

	[multiple]	(pioneer) [competitive dynamics and absorptive capacity]	strengthened by high competitive intensity and exploitation-based absorptive capacity of the imitator.	certification by an industry rival and the focal firm's obtainment of the same standard (GLS regressions and subsample analysis)
Giachetti et al. (2017)	Mobile phones (1997-2008) [United Kingdom]	New product technologies (pioneer) [Red Queen competition theory]	The average SoI of new product technologies by a focal firm positively influences its sales performance, while rivals' SoI negatively influences the focal firm's sales performance. These relationships are also influenced by product technology heterogeneity in an industry.	Average time in months it takes to imitate new product technologies (robust fixed-effects regressions)
Giachetti and Li Pira (2022)	Mobile phones (1997-2008) [United Kingdom]	New product technologies (market leader) [competitive dynamics and first-mover advantage]	SoI of new product technologies by a focal firm positively influences its market share gains relative to the pioneer and the degree of competitive responsiveness thereof. Both these relationships are weakened if the pioneer is also the market leader. These relationships are also influenced by an industry clock-speed.	Months elapsed since a new product technology has been introduced by the pioneer and its imitation (robust fixed-effects regressions)

Online Appendix D: Bibliography for the Review Sample

In this appendix, we present the bibliography for our review sample. References marked with [C] indicate papers included in our primary **central** subsample (i.e., those 29 articles we selected from the initially extracted pool of studies we obtained from the first query we launched in Scopus). Those marked with [A] denote **additional** studies on the speed of imitation sourced from the bibliographies of the primary sample and other sources (i.e., 11 articles).

Carow, K., Heron, R., Saxton, T. 2004. Do early birds get the returns? An empirical investigation of early-mover advantages in acquisitions. Strategic Management Journal, 25(6), 563-585. [C]

Cohen, W. M., Goto, A., Nagata, A., Nelson, R. R., Walsh, J. P. 2002. R&D spillovers, patents and the incentives to innovate in Japan and the United States. Research Policy, 31(8-9), 1349-1367. [C]

Damanpour, F., Gopalakrishnan, S. 2002. The dynamics of the adoption of product and process innovations in organizations. Journal of Management Studies, 38(1), 45-65. [C]

Delios, A., Gaur, A. S., Makino, S. 2008. The timing of international expansion: information, rivalry and imitation among Japanese firms, 1980-2002. Journal of Management Studies, 45(1), 169-195. [C]

Durand, R., Coeurderoy, R. 2001. Age, order of entry, strategic orientation, and organizational performance. Journal of Business Venturing, 16(5), 471-494. [A]

Ethiraj, S. K., Zhu, D. H. 2008. Performance effects of imitative entry. Strategic Management Journal, 29(8), 797-817. [C]

Fuad, M., Sinha, A. K. 2018. Entry-timing, business groups and early-mover advantage within industry merger waves in emerging markets: A study of Indian firms. Asia Pacific Journal of Management, 35(4), 919-942. [A]

Gaba, V., Terlaak, A. 2013. Decomposing uncertainty and its effects on imitation in firm exit decisions. Organization Science, 24(6), 1847-1869. [C]

Giachetti, C., Lampel, J., Li Pira, S. 2017. Red Queen competitive imitation in the U.K. mobile phone industry. Academy of Management Journal, 60(5), 1882-1914. [C]

Giachetti, C., Li Pira, S. 2022. Catching up with the market leader: Does it pay to rapidly imitate its innovations? Research Policy, 51(5), 1-14. [C]

Giachetti, C., Lanzolla, G. 2016. Product technology imitation over the product diffusion cycle: which companies and product innovations do competitors imitate more quickly? Long Range Planning, 49(2), 250-264. [C]

Gielens, K., Dekimpe, M. G. 2007. The entry strategy of retail firms into transition economies. Journal of Marketing, 71(2), 196-212. [A]

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