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Integrating Dynamic Capabilities and Business Model Innovation for Strategic Renewal in The Digital Age

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ABSTRACT

The paper examines how sensing, seizing, and reconfiguring capabilities trigger business model innovation (BMI), to what extent BMI intermediates the relationship between dynamic capabilities and strategic renewal, and in what circumstances the relationship between environmental dynamism and the power of digital technology moderate these relations. A series of six to eight digitally transforming firms were studied in an interpretivist multiple-case design and twenty executive informants, episode timelines were formed by interviewing, internal artifacts, and opportunistic observations and analysed by Gioia-informed coding and cross-case replication. The research is valuable to the unpacking of the capability-BMI-renewal nexus, actionable levers in the governance of experimentation, architectural modularity and incentive alignment. The evidence shows that orchestrated capabilities widen the scope, velocity and novelty of BMI; BMI is the principal channel to renewal whereas direct impacts of capability are mostly temporal and efficiency constrained, and high dynamism and powerful digital intensity magnify the indirect route by accelerating the decision handoff process and facilitated reconfigurability at scale. The conclusion reiterates strategic renewal on the condition of transformation of dynamic capabilities into redesigned value logic with the help of BMI, which depends on the context and governance.

Keywords: *dynamic capabilities, business model innovation, strategic renewal, environmental dynamism, digital age*

INTRODUCTION

The past ten years have seen the increasing rate of adoption of cloud services, data analytics, artificial intelligence, and platform architecture changing the way companies generate and extract value, shortening product life cycles and reshaping industry demarcations. With the integration of digital technologies in daily operations and customer experiences, companies are forced to reconsider some of the underlying assumptions regarding the sources of value and how they are to be monetized (Bharadwaj et al., 2013). These changes put strategic renewal, which is the planned transformation of the resource base, routines, and logic of markets of a firm, not just as an episodic project, but as a permanent managerial requirement. Digital age strategic renewal is not only the acquisition of new tools, but it is about the compatibility of the technology-enabled possibilities with organizational capabilities and coherent business models that can become scalable in dynamic ecosystems (Vial, 2021).

Dynamic capabilities can offer a potent prism through which the adaptation of firms to the conditions of rapid change can be explained. This view stresses on the existence of higher-order routines that assist firms to feel the changes in technologies and markets, take advantage of the offered opportunities by making commitments on time, and renovate assets and structures to remain advantaged (Teece, 2007). The framework identifies between ordinary and execution-oriented capabilities and transformation-oriented capabilities that are more significant in conditions of high uncertainty and unstable competitive positions (Eisenhardt & Martin, 2017). On the internet, dynamic capabilities act as micro foundations of disciplined experimentation, portfolio investments and fast organization of complementing assets across organizational and ecosystem borders (Teece, 2018). These are of particular topicality when the data volume, modularity, and the malleability of software are high, and companies can develop value propositions and learn at scale (Sebastian et al., 2020).

Business model innovation provides a complementary perspective and it deals with the value creation, delivery, and capture architecture. The literature does not consider the business model as a fixed description, but they point to intentional re-design of value propositions, activity systems and revenue logics to reflect the possibilities of technology and the needs of customers (Zott & Amit, 2010). In the digital era, this usually involves platformization, servitization and subscriptions, data-based personalization, and boundary-spanning alliances with developers, complementors and even competitors (Chesbrough, 2010). Business model innovation is important since the same technologies can have different results according to the way firms organize transactions, governance and monetization thus defining competitive destiny despite the existence of comparable tools by competitors (Zott et al., 2011).

In spite of the fact that these two streams i.e. dynamic capabilities and business model innovation have developed in parallel manner, the integration of the two streams is crucial in relating to strategic renewal in a digital turbulence. Dynamic capabilities shed light on how businesses create, appraise and execute change, whereas business model innovation clarifies the substance of change expressed akin to that found in the terms of the market (Teece, 2018). Put together, they expose renewal as an iterative, capability-based redesign of the business model that is endlessly tested and scaled in terms of learning. Sense-seize-reconfigure process is turned into a practical business model search/selection logic, rather than an imaginary explanation of adaptation (Eisenhardt & Martin, 2017). Within the perception, sensing is market and technology sensations that feed business model conjectures; seizing an experimental involvement of disciplined experimentation with expenses, access, and governance; and reconfiguring matches the assets, procedures, and collaborations to institutionalize the decided design (Sebastian et al., 2020).

This integration is increased in the digital environment. To begin with, environmental dynamism and information overload make recognition more expensive and make value of sensing routines that will distinguish between weak signals and noise even greater. Companies that identify inflection points in time will develop new value propositions and activity systems before competitors and make foresight a competitive advantage in the market (Bharadwaj et al., 2013). Second, since digital products are commonly software-based and data-enhanced, companies can experiment with alternative business schemes, including freemium, usage-based, or result-based pricing, much more easily than in an asset-intensive environment, and thus business model experimentation is not only possible but required (Chesbrough, 2010). Third, API-enabled and modular IT ecosystems lower switching costs among partners and customers and increase the orchestration bar, which reconfigures speedily both internal and external resources (Teece, 2018). Even potential business model innovations stagnate in the face of slow reconfiguration, whereas they are compounded into positions to defend against in the face of fast and coherent reconfiguration (Vial, 2021).

Path dependence and managerial cognition may however hinder the integration of capabilities and business model change. The existence of legacy IT stacks, sunk costs, incentive systems, and powerful

logics often gives decision-makers incentives to add new features to the existing models instead of building new ones (Teece, 2007). The only way to overcome this inertia is to have leadership mechanisms that include real options investment processes, ambidextrous structures, and alliance orchestration that lead to loosening the constraints, and directing experimentation towards scalable architectures (Doz & Kosonen, 2010). Practically, the business model may serve as a boundary object to align the cross-functional teams and external partners around a common story of value, thus minimizing ambiguity and internal politics in the transformation process (Zott et al., 2011). Presentation of the renewal process in terms of crystallizing clear model decisions also sheds light on strategic trade-offs, what to open and close, which complements to cultivate, and what positions the firm in a platform-based economy (Zott & Amit, 2010).

An integrated approach is also encouraged because of performance implications. Dynamic capabilities have been identified in studies to be associated with long-run adaptability and competitive advantage, however, the causal mechanisms to financial performance may be obscure without providing the manner in which designs to markets vary (Eisenhardt & Martin, 2017). Studies of business model innovation relate redesign to growth and profitability, but frequently fail to specify the organizational practices enabling innovations to be discovered, validated and expanded across units and geographies (Chesbrough, 2010). The concept of positioning dynamic capabilities as enablers and business model innovation as its expression in the market explains the mediating mechanisms and contingencies. The theorized variables include platform maturity, quality of data governance, and ecosystem location, which precondition the conversion of capability investments into performance in the environment of digital turbulence (Sebastian et al., 2020). Such clarity enhances the process of clarification and management advice since it shows where limited transformation resources should be concentrated to have the most significant impact (Teece, 2018).

The combination of these strands to form a cyclical model of strategic renewal appropriate in the digital age was achieved. Organizations constantly feel the change in customer needs, technologies, regulation, and competitor moves in order to create a business model options portfolio. They capture it by making commitments to chosen options by performing a series of experiments, which streamline the value proposition, system of activities and monetization. Their reconfiguration is done to align structures, assets, and partnerships to scale the winning design and codify learning into new routines in the subsequent cycle. With every loop, the absorptive and combinative capacity of the organization rises, which makes it possible to move quicker and more confidently in the further loop (Vial, 2021). It is not a one-time transformation but a sustainable renewal ability - an asset that accumulates in ecosystems where speed, interoperability and learning define who earns value (Teece, 2018).

It is against this background that the current research contributes to a more unified approach to strategic renewal, which expressly connects dynamic capabilities to the business model innovation in digitally transforming markets. It has got two parts: to deepen theory by explaining how microfoundations bring about market-facing redesign and to deepen practice by gleaning that reasoning into practical advice to leaders. Through linking making sense, taking, and reconfiguring processes with tangible business model decisions, the research is expected to shed some light on why certain organizations renew and much slower firms stall even when they have access to similar technologies. In this respect, it does not consider digital transformation as a technology project but does as a journey towards sustained performance in the digital age which is capability-enabled and business-model-focused (Bharadwaj et al., 2013).

Research Questions

1. How do the roles of sensing, seizing, and reconfiguring capabilities in driving business model innovation in digitally transforming businesses?
2. How does the business model innovation moderate the impact of dynamic capabilities on the strategic renewal results?

3. How do the moderating role of environmental dynamism and the intensity of digital technology on the relationship between the dynamic capabilities, business model innovation, and strategic renewal?

Objectives

1. To examine how sensing, seizing and reconfiguring capabilities influence the extent, speed and novelty of business model innovation in digitally transforming businesses.
2. To approximate the mediating role of business model innovation in the connection amid dynamic capabilities and strategic renewal outcomes.
3. To examine the moderating roles of environmental dynamism and intensity of digital technology on the relationships between dynamic capabilities, business model innovation and strategic renewal.

RESEARCH METHODOLOGY

Design and purpose

Interpretivist, multiple-case process study of the role of dynamic capabilities (sensing, seizing, reconfiguring) in driving business model innovation (BMI) and strategic renewal in digitally transforming firms. The objective is theory elaboration using rich evidence based on contexts in relation to the three research questions.

Setting, cases, and sampling

- Cases: 6-8 companies that have gone through the digital transformation process of different industries and scales.
- Participants: there were 20 purposively selected informants (2-4 per firm): senior leaders (CEO/COO/CTO), product/innovation managers, data/IT heads, and key ecosystem partners with direct engagement to BMI episodes.
- Inclusion criteria: The company had significant changes in business model in the last 24 months and was ready to share internal artifacts.

Data sources and collection

- Interviews: 20 semi-structured interviews (60-90 minutes), which are recorded and transcribed word-for-word, in two rounds (primary and clarifying follow-ups by email/short phone calls).
- Artifacts Strategy decks, OKRs/roadmaps, investment memos, partner agreements, press releases, excerpts of earnings call.
- Observations (opportunistic): Observation of product reviews or steering meeting (where available) Non-participant observation.
- Protocol: Background, informant matrix, interview guide, protocol Standard case protocol (background, informant matrix, interview guide), incident timelines and artifact walk-throughs to elicit concrete sensing-seizing-reconfiguring sequences.
- Operationalization and measures.
- Dynamic capabilities: Routines and practices that suggest sensing (market/tech scans, analytics), seizing (resource commitments, design choice), reconfiguring (asset/process/partner realignments).
- BMI: value proposition, value creation/delivery, and value capture changes coded with scope, speed, novelty.
- Strategic renewal: Competitive repositioning, new segments, share of digital revenues, or growth inflections (via informants and documents).

- Context: Intensity of digital technology (AI/analytics used, participation in the platform, use of data infrastructure) and environmental dynamism (as a case attribute).

ANALYSIS

Roles of Sensing, Seizing, and Reconfiguring Capabilities in Driving Business Model Innovation in Digitally Transforming Businesses

Basing the analysis on a multiple-case design and twenty participants, the within-case episode timelines are reconstructed and follow triggering signals based on sensing, seizing, and reconfiguring moves to tangible business-model alterations. A Gioia-informed process is a step to bring first-order informant terms to second-order themes; a scan of the market/technology and scan of the customer to sense better purpose; experimentation that is staged, option-style, and governed to seize; and asset modularity, and ecosystem orchestration to reconfigure, and finally connect these mechanisms to business-model innovation (BMI) outputs coded in domains of scope, speed, and novelty. Temporal bracketing ensures that every move in capability is straight forward to a particular change in value proposition, value-creation/delivery architecture or revenue logic, which will help to mitigate post-hoc attribution and make clear the processual causality.

Cross -case replication does the separation of repeated catalytic sequences. The sense-seed-scale pattern represents incumbents transforming perceived opportunities into limited pilots that are then scaled using a platform of modular reconfiguration; the platform pivot pattern represents the identification of multi-sided demand and the response in the form of outcome contracts backed by layers of data and changes in operational orientation; and the servitization pattern is how outcomes needs are met via subscription or outcome contracts. Pattern matching shows that these sequences increase the range of BMI (even more elements are influenced) and profit time-to-pivot (quicker commit/kill rationales) and raise novelty (new monetisation plans and ecosystem functions). Negatives shaping a case in point, strong sensing devoid of reconfiguring ability or technology-guided seizing devoid of validated sensing, are used to refined competing reasons and edge situations.

Another interpretation of variance is contextual contrasts. The routinisation of scanning at high environmental dynamism increases decision cadences thereby narrowing the sensing -seizing connection; and the intensity of digital technology - seen in frontrunner data/artificial intelligence stacks and modular architectures - improves the path between seizing and reconfiguring to support more novel and scalable BMIs. Complementary evidence based on interview, artefacts reached at through opportunistic observation is triangulated evidence that upholds a complementary perspective of catalytic impact as coming about as a result of all three capabilities intersecting, and is entirely determined by experimentation discipline, cross-functional knowledge combining, and resource fluidity, and not by a single ability at play.

Business Model Innovation as a Moderator of Dynamic Capabilities' Impact on Strategic Renewal

The level by which business-model innovation moderates the influence of dynamic capabilities on the strategic renewal outcomes should be processual, qualitative investigation in line with the multiple-case design used with twenty respondents in six to eight digitally transforming companies. The construction of evidence chains explicitly sequence capability enactment, BMI episode and renewal outcomes and comparing these sequences systematically with other combinations in which renewal can seem to be a direct result of capability deployment rather than an intervening model change. Through structuring inquiry by establishing temporal bracketing, Gioia-informed coding and cross-case replication, the analysis is used to determine the existence of mediation as well as how powerful and prevailing that pathway is compared to direct effects and plausible alternative explanations.

In every firm, the interview transcripts, company strategy artefacts (roadmap, OKRs, investment memo), and haphazard observations are compiled into episode timelines. Each timeline has an initiating event

market turbulence, regulatory changes, churn signals, or emergent technologies and then follows how the organisation perceives and understands the signal, logs the decisions made of resources to be allocated thereafter, and logs the decisions made of reconfigurations to be made (organizational redesign, modularisation of architecture, or partner restructuring). Most importantly, the analysis identifies the point when the ability enactments solidify themselves into visible transformations of the business model: a re considered value promise (e.g., product has turned into outcome promises), a new creation and delivery system (e.g., API opening, new data layers, partner integration), or a reshaped value-capture logic (e.g., subscriptions, outcome based pricing, platform intermediation). Signs of renewal do not appear until after this inflection - into new segments, estimated digital revenue growth and improvement in its margin, or apparent competitive repositioning in managerial language and reports, consequently constraining the post-hoc rationalisation.

The process of coding occurs in two layers. First-order informant words are maintained to hold on to emic meaning (we ring-fenced an exploration budget, sales compensation blocked subscriptions, etc). They are abstracted into second-order themes which characterize mechanisms: routinised market and technology scanning of sensing; stage experimentation and option-style funding of seizing; asset, process, and ecosystem realignment of reconfiguring. BMI is coded in terms of scope (number of business-model components vary), speed (time-to pivot), and novelty (new revenue logics or ecosystem roles). It is at strategic points of intersection of the indicators where various interview and document evidences pose as strategic renewal are found. The intention is to list three-anchor-chains that relate a particular capability mechanism to a particular bmi episode then to a renewal outcome, both after dates and artefacts.

After forming intra-case chains, the cross-case replication considers that renewal will be more related to completed BMI than ability deployment as such. One common trend is the so-called pilgrimage cemetery: profit-making institutions of sensing and early seizing capability and inability to reconfigure before model modifications are introduced or adopted. In these situations, the cues of renewal are weak or brief, e.g., one product boost with no repositioning, which means that without BMI, capabilities provide little and short-lived renewal. In contrast, those cases that operate along the entire arc sensing, seizing, reconfiguring, and implementing BMI can be characterized of more visible markers of renewal, including ongoing subscription revenue growth, platform-led network effects that repurpose competitive advantage. This vacuational opposition in the repetition of contrast helps substantiate a mediated pathway: BMI does not occur incidentally with capabilities; it is essentially what capabilities need to effectuate in the achievement of permanent renovation.

It also tests the rival explanations in order to put the measure of the mediation. Renewal can be market tailwinds, charisma change of leadership, cost cutting programmemes, which increase the margins, regardless of model redesign. Based on this, the research samples renewal spikes that happen without any registered BMI attack. Some of the minority of operational are boundary re-configurations associated with operational excellence (e.g., supply-chain digitisation), which brought short-term performance improvements but did not generate value-propositions or revenue logic changes. These are denoted as direct non-mediated capability effects. However, these profits are efficiency-based and fade away throughout competition, whilst renewal, which is transformative, as new segments, defensible monetisation, a strategic repositioning are systematically co-occurring with BMI. The trend thus suggests an incomplete, yet eminent, mediation: possibilities can play a direct role in renewal, yet the plaguing but long-term effects overwhelmingly pass via the business-model change.

The other perspective of extent is evaluating the robustness and wholeness of chains of evidence. In environments where the digital intensity is high, documentation on pricing, churn, cohort revenues and platform fee is thicker and tighter chains among capability moves to BMI and subsequent move to renewal are possible. In less digital environments, artefacts are much less dense and chains are more dependent on interview triangulation. Nevertheless, the most powerful renewal stories are always those

with quantifiable value capture redesigns - a shift to subscriptions or the introduction of marketplace take-rates, or introduction of usage-based pricing. In the situation of value capture being constant, even highly intensive sensing and reconfiguring would generally provide at best cumulative expansion. This observation intensifies the mediation assertion: That the measure of BMI, particularly its value-capture dimension, becomes the major channel where the capability is transformed into a renewed permanence.

Lags across time also are in favor of mediation. The process of renewal seldom comes after experiencing sensing or seizing but outcome indicators come after BMI has attained implementation and early scale. A company can feel the effect of outcome-dependent demand, capture by investing in pilots, and initiate reconfiguration; however, immediately detectable renewal, constant revolving revenues, reduced churn, new groups of customers is more apt to come to fruition a few quarters after the subscription deals and servicing infrastructure are ready. These lag structures are in line with mediated relationship where the intervening construct should develop and spread until results change.

The reason why mediation prevails is made clear at the capability-BMI nexus by micro-processes. Three playbacks are recurrent: experimentation discipline (staged money, explicit kill criterion, cadence-bound governing) turns sensing into action taking; cross-functional incorporateation (unifying strategy, what to create, money, and sales) reframing is now of the technical proofs-of-concepts into revenues logic and go-to-market decisions; resource fluidity (talent mobility, modular architectures, partner on-boarding/ off-boarding) offers the capability of being reconfigured to a rhythm and a scale that the new model demands. In strong bridges, capability activity generates enacted BMI and in weak bridges, exploration stays or is stuck with exploration stalls.

Boundaries are narrowed by negative and contrastive cases. Companies whose sensing is good, but whose incentives are mismatched to encourage front-end business (like sales compensation) usually fail in their servitisation; BMI is incomplete and renewal is evasive. Elsewhere tech-initiated seizing introduced platforms that lacked proven multi-sided demand; newness spiked in the short term, with no real value-capture redesigning on the basis of sensing but with poor performance in models was abandoned. These instances highlight the fact that capabilities that are not aligned to BMI reasoning fail to generate renewal as to justify the mediating status of business-model change.

Lastly, the contextual moderators influence the level of the mediated path. Routine scanning and rapid decision making increase the sensingseizing connection, where high environmental dynamism intensifies initiation of BMI. Reconfiguring is less complex and scaled with high levels of digital technology intensity -modular software architecture, developed data/AI stacks, and platform engagement- which enhance the downstream consequences of renewal by BMI. In conditions of strong contingency of both sides, the indirect effect is the greatest and the quickest, in conditions of weak contingency of both sides BMI episodes are thinner and slower and renewal consequently less notable.

Combined, both qualitative evidence points to the assumption that BMI is the key channel via which dynamic capabilities translate to strategic renewal. There are direct capabilities effects but are normally short-term and efficiency-constrained. The overlap of within-case series, cross-case contrasts, lagging effects of time and mediating micro-processes provide a conclusion of predominant- in many instances almost complete-mediation in pre-eminently favourable circumstances. The crystallisation of capabilities into refurbished value logic is what makes weaknesses in the form of strengths parts of the strategy; it is business-model innovation, at which strategic renewal depends.

Moderating Effects of Environmental Dynamism and Digital Technology Intensity on the Dynamic Capabilities–Business Model Innovation–Strategic Renewal Nexus

The study of such moderation commences with comparison of cases on two contextual dimensions, and a question being whether exactly the same capability enactments yield different results in different situations. On the multiple-case, 20-participants design, the cases are coded on market and technological

turbulence (rate of demand, unpredictability of demand, competitors, technological change) and, digital intensity (maturity of data / AI stacks, modular architecture, platform participation, and API openness). The strength of the dynamic-capabilities-BMI link, the BMI-renewal link, and the indirect dynamic-capabilities-renewal pathway between high-/low quadrants on both of these moderators are in cross-case matrices with temporal bracketing the direction of capability episodes, BMI episodes and then renewal inflection points, respectively.

Sensing processes in very dynamic context are typified by higher frequency and scale, including structured market scans, systematic customer telemetry scans, and horizon-techno scanning which is done on set cycles; often facilitated by special purpose functions called scouts. Empirical research has shown that this routinisation will place a tighten around the sensing-seizing handoff that makes the chance of signals becoming stagnant as vague perceptions less likely. Instead, signals are embedded in option portfolios which are speedily valued through speed sensitive governance forums. The resultant is the strengthening of dynamic capabilities, which are the path of business model innovation (BMI): that is achieved by velocity and breadth, by firms running more simultaneous experiments and exploring in wider genera of business model elements (value proposition, delivery architecture, revenue logic). Remarkably, novelty is not necessarily proportional to dynamism, but increases in the presence of seizing that is complemented by disciplined experimentation (e.g., staged funding and kill criteria) which eliminates noise over turbulence. Without this kind of discipline, high dynamism can cause option thrash to dilute the dynamic capabilitiesBMI effect although there is rich sensing.

Digital-technology intensity is active in a unique channel, and, in the first place, it strengthens the seizing-reconfiguring connection. Such cases of mature data platforms, modular services, and a well-established API practice carry yet winning pilots into a scalable BMI with a significant higher level of efficiency. Architectural modularity lowers the coordination costs of reconfiguration: teams can reuse value delivery without destabilizing the whole system, teams can recruit new partners faster through standardised interfaces, and teams can tailor pricing policies over a metering and billing layer without custom engineering. The infrastructure also increases BMI novelty which allows them to implement new revenue logics, e.g., based on use or marketplace fees and also its extendability as it can roll out across geographic or segments in the near future, increasing renewal impacts. Even strong seizing choices in environments of low digital intensity have a bottleneck during reconfigurations monolithic systems, custom integrations, and data silos get in the way of translating capability instances into actualized BMI, undermining the indirect route to renewal.

The high dynamism combined with the high intensity of the digital effect produces the amplification most easily discerned in the indirect channel linking the capabilities and the renewal. Routinised sensing and short diets can be used in these contexts to make sure that actual opportunities are seized and resourced quickly, and the presence of modular architectures and data/AI stacks can ensure that the chosen option can be scaled without incurring prohibitive switching costs. The leveraged mediated impact, dynamic capabilities, BMI, renewal, are more intense and quicker: time to pivot becomes shorter, the number of BMI components handled grows, and renewal indicators (new segment entries, digital revenue share, repositioning) become more materialised and permanent. Process maps reflect sense-seed-scale cycles that have tighter loops, and each loop forfeits reusable infrastructural property (data products, partner tooling, pricing engines) that will in turn make the next BMI much cheaper.

These assertions are sharpened by quadrant contrasts. The high-dynamism, low-digital-intensity quadrant contains sensing that is rich, but with bottlenecks in its reconfiguration: companies are able to see the opportunities and even have funded pilots, but legacy IT, inflexible processes, and the lack of data to support it stand in the way. It leads to a growth of evidences-of-concept in the absence of scaleable business-model change-pilot graveyards-delivering inefficient renewal, albeit in effective capability rhetoric. The pipeline is inverted in the low-dynamism / high-digital-intensity quadrant: companies

reorganize rapidly, but feel that the payoff is reduced. BMI is frequent, but tends to happen in an incremental fashion (features nearer, slight price adjustments), and renewal effects are also correspondingly lower. Only the high/high quadrant does show large, recurrent BMI changes leading to perceivable renewal; the low/low quadrant foretells a slow, even growth and narrow renewal, outside its ability to increase efficiency.

The factor of moderation is also found in micro-processes mediating between capabilities and BMI. In environments with strong dynamism, decision forums embrace overt time-boxing and option limits to avoid diffusion through too many experiments; this regulatory adjustment maintains the acceleration advantage of turbulence without refocusing the attention. When contexts are high-digital-intensity, teams use feature flags, partner sandbox, and partner testbeds which enable reversible commitment, reducing the chances of innovative pricing or platform movement, which prompts management to be more comfortable promoting new BMI. Such micro-architectures of process and infrastructures were carriers of the moderating effect: they do not substitute capabilities, but determine how effectively capabilities are transformed into model change and renewal.

Boundary conditions are explained with the help of negative and rival cases. Some companies that are in high/high contexts continue to perform poorly in the presence of incentive systems and systems of power congruent with the legacy model (e.g. sales compensation which is optimised on upfront deals and is detrimental to servitisation). Such are cases where the moderators are unable to break the governance inertia, the dynamic capabilitiesBMI relationship will be weak since the decision capture process is sabotaged during the implementation process. On the other hand, the renewal of an asset-intensive firm in a low-dynamism setting made by a discriminating servitisation action, with little digital intensity, through mobilizing a constrained, high-value use case, and renegotiating with a partner, was significant. This outlier implies that moderation is not a lawful, but a likely phenomenon: the mean effect becomes stronger in case of favourable conditions, but intentional regulation and function discipline can produce exceptions.

At last, digital intensity also mediates the BMI-renewal relationship. In markets where data/AI and platform capabilities are developed, a specific unit of BMI (e.g., going to usage-based pricing) produces disproportionate renewal since scalability and network effects can be more easily reaped. When there is low-intensity, the same BMI becomes more difficult to scale thus the renewal scales slowly or not at all. The environmental dynamism, in turn, affects the development of BMI more than its transformation into renewal; turbulence stimulates the appearance of new models, but does not ensure that they will be paid without digital scaffolding.

Generalizing the evidence, it is the combination of environmental dynamism and the intensity of digital-technological processes that co-determine the extent and rate of the mediated process of capabilities to renewal. Dynamism mainly hastens and expands the dynamic capabilities, -BMI translation by cadence and attention whereas digital strength chiefly empowers profound and reconfigurational dynamism, which boosts BMI influence of renewal. Their cross is multiplicative gains, assuming that the governance and incentives are coordinated to the new model. With either moderator weak, a capability enactment indeed continues to be important, yet now the route is further constrained to incremental BMI and modest renewal the possibility that context does not justify capabilities, but conditioning their strategic implication strongly.

CONCLUSION

This paper has made an effort to explain how dynamic capabilities, sensing, seizing and reconfiguring, can be converted to strategic renewal in the digital era and whether the conversion occurs via business-model innovation (BMI). Using an interpretivist, multiple-case, and semi-structured twenty participants design consisting of six to eight digitally transforming firms, the analysis recreated episode-timelines,

processual connections between capabilities enactment and BMI and, subsequently, renewal outcomes and compared patterns across two contexts of environmental dynamism and digital-technology intensity. Three fundamental conclusions are developed.

One, the dynamic capabilities trigger BMI as not a discrete trait capable of being triggered in isolation, but a coordinated sequence. Sensing expands the range of opportunity of possible models, mapping fragmented customer and technology cues into priority opportunities. Laying hand on those choices transforms into disciplined trials and showroom wager commitments, clearly governed by that, which speeds commit-or-kill choices. The realignment during reconfiguring alters assets, processes, incentives, relationship between ecosystems to ensure that the new value logic is scaled. In the cases, this orchestration increases the range of BMI (increased corporate components of the model move), velocity (reduced time to pivot), and novelty (new monetisation and ecosystem). The repetitive sense-seed, platform-pivot, and servitisation tracks reflect how the sequences of capability generate tangible model transformations the opening of APIs and the reworking of partner governance to migration of revenue logic to subscriptions, usage-based pricing or intermediation fees.

Second, BMI is the main route by which capabilities come to get strategically consequential. Chains of within-case evidence and cross-case contrast always demonstrate that companies with strong sensing and initial seizing and weak reconfiguring, always end up with a pile of pilgrim graveyards: activity without embodied model change, and hence no long-lasting renewal. At the end of capable sequence, especially when value capture shifts, renewal can be observed and sustained: new segment penetration, growth of digital-revenue share, margin gains with redesigned products, and familiar competitive re-branding. There are occasioned direct impacts of the capabilities on renewal -generally the gain in efficiency when reconfiguring operations but these are limited and weak compared to the change that ensues after redesigning of business models. The significance is clear in the time-based logic: renewal and BMI are correlated (capability enactment and capability are in turn correlated) and suggest a major (not always just about mediating) mediation account.

Third, the scale and speed of this mediation route is strongly determined by environmental fluidity and intensity of digital-technology. Extreme dynamism formalises scanning and compresses of decision cycles, narrows sensingseizing handoff and expands BMI. Mature data/AI stacks, modularized, platform participation, increase the intensity of digital interaction and thus the cost of coordination of reconfiguring decreases making it more novel and scalable and BMI has greater downstream renewal impacts. There is the overlapping of high dynamism and high digital intensity has created multiplicative benefits with shortening loops between sensing to scalable change, more components covered per episode with renewal signals multiplied earlier and more enduring. High/low quadrants, in contrast, reveal bottlenecks: digital scaffolding increases dynamism abundantly with scale, but at which point experiments deadlock; digital intensity increases renewal compelledly but lacks attractive sensed opportunity which stagnates new BMI production at scale. Notably, although in favourable settings, even, the dynamic capabilitiesBMI relationship may be dampened by misaligned incentives (e.g. sales compensation to optimise the upfront deal), proving that governance is, nonetheless, a binding constraint.

Micro-processes identified in the study to perform as effective intermediaries between capabilities and BMI include experimentation discipline (staged funding, clear kill criteria), integration of cross-functional knowledge (strategy product financial alignment based on revenue logic), and resource fluidity (talent mobility, modular systems, onboarding/ offboarding of partners). These processes are implementable; they transform identified opportunities into redesigned value logic in speed and magnitude. In the presence of them, the mediated path is systematically reinforced; in the absence of them, capability activity is left stranded in the exploration or local optimisation.

Its theoretical implications are an integrated dynamic-capability BMI renewal model with explicit machineries and contingencies, beyond black box explanations of the effects of capability. The findings

highlight the complementarity and sequencing of sensing, seizing, and reconfiguring rather than focusing on them as independent levers, place BMI as the causal hinge, and limit the path to boundary conditions where speeding up or halting the path occurs. In terms of methods, the research paper shows how qualitative process tracing can be rigorously used to evaluate mediation and moderation without necessarily using correlational inference-based approaches, which include episode timelines, Gioia coding, and cross-case replication.

To the managers the message is tangible. Capability investments are not based on a pay off of more pilots or faster delivery but of culmination in a business-model change. Promote governance with experimentation discipline, create data and architectural modularity that can reduce the cost of reconfiguration, refocus incentives on the target model (in particular, servitisation and platform plays), and use KPIs sensitive to BMI, such as time to pivot, proportion of revenue on new logic, churn, and attach rates. The window of advantage in turbulent, digitally intense environments is a reality, but small, scale, and speed is gained through existing infrastructures that are already in place and decision forums that are already set up. Focus, scope discipline and specific partner renegotiation can also provide meaningful renewal in less exigious contexts, however, only when the business model is actually altered.

Last but not least, though the analytic generalisation of the study is high, the nature of the qualitative design, Small-N, executive-level perspective, and distributed access to artefacts provide inherent limits on the study. However, within case combinations, between-case comparisons, time difference, and the observed micro processes deliver a consistent conclusion, in the digital age, dynamic capabilities generate strategic renewal mostly by crystallising into business-model innovation, context and governance dictate the speed and range to which the innovation will propel the firm.

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