Navigating organizational change: sequential vs simultaneous approaches to innovation management in modern enterprises

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Abstract

Purpose – *This study aims to explore the relationship between innovation and strategic management in contemporary enterprises, emphasizing the navigation of organizational change for sustainable competitive advantage. This study addresses the challenge of adapting to dynamic environments and the critical role of leadership, organizational culture and collaboration in successful innovation management.*

Design/methodology/approach – *The authors used the typology research design and comparative analysis to explore the principles and strategies underlying different innovation approaches. This study examines their impact on organizational structures, resource allocation and the integration of technological advancements with managerial practices.*

Findings – *The authors developed a typology of two innovation management models. The sequential approach emphasizes phased and incremental innovation, while the simultaneous approach advocates for dynamic and comprehensive integration of innovation across the organization. Each model presents distinct advantages and challenges, underscoring the need for a tailored approach based on the enterprise's context and objectives. Mature companies may benefit from the sequential approach to gradually evolve their innovation, while new and high-tech-intensive companies can leverage the simultaneous approach for dynamic and continuous innovation.*

Research limitations/implications – *Future research should examine local bodies and trade unions' perception on the energy crisis' impact toward rural entrepreneurship.*

Practical implications – *The findings are useful to Greek and European policymakers and rural micro-entrepreneurs as the experience of dealing with several previous crises can be a useful tool when dealing with current and future crises.*

Originality/value – *This study enhances understanding of the complex interplay between organizational innovation and strategy. The authors recommend further exploration of emerging technologies, cultural values, collaboration, sustainable practices and changing customer behavior to boost innovation capabilities and achieve success.*

Keywords *Innovation management, New product development, Organizational change, Strategic management, Competitive advantage, Comparative analysis, Organizational structure, Creativity management*

Paper type *Conceptual paper*

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1. Introduction

The intricate relationship between innovation management and entrepreneurial success is a cornerstone of contemporary business strategy. Innovation, the synthesis and execution of novel ideas, drives competitive advantage and helps businesses adapt to the rapidly changing landscape (Do *et al.*, 2022). In strategic planning, innovation's intersection with

creativity introduces complexities that require a nuanced approach (Proctor, 2018). Current trends emphasize the need for organizations to internally focus on processes that foster and disseminate innovation (Grant and Jordan, 2015).

Technological advancements, shifting consumer expectations and intensified market competition underscore businesses' need to understand effective innovation strategies and best practices (Cosa, 2024). This is crucial for new product development, which is essential for sustaining growth and relevance in a constantly changing business environment.

Historically, academic research has focused on dissecting new product development and innovation elements. For example, Snihur and Bocken (2022) explored how organizational culture influences innovation performance, while Kurzhals *et al.* (2020) reviewed trends in innovation management, including strategic leadership and technological advancements. However, these studies often isolate aspects of innovation, leaving a gap in the literature for a holistic view.

We aim to address this gap by using a comprehensive typology research design and comparative analysis, identifying multiple dimensions of new product development and innovation. Our study integrates strategic modalities, organizational processes and theoretical frameworks to provide a deeper understanding of innovation management. This multi-perspective approach is essential for comprehending how various organizational models operate across diverse markets and business lifecycle stages (Cantner *et al.*, 2021).

Our study focuses on two distinct managerial models of innovation – sequential and simultaneous – exploring their applicability and effectiveness in diverse business contexts. This responds to research emphasizing the need for a refined understanding of how innovative strategies, especially "back-end" processes, lead to sustained competitive advantages and enhanced performance (Tidd and Bessant, 2018).

The specific objectives of our research are to:

- Elucidate the defining characteristics of sequential and simultaneous innovation management approaches.
- Compare and contrast these approaches to highlight their similarities and differences.
- Investigate the theoretical underpinnings and methodological aspects of each model.
- Provide insights into the suitability and adaptability of these models for firms in various markets and lifecycle stages.

Through this exploration, our paper aims to guide businesses in selecting the most appropriate innovation management model aligned with their operational needs. By understanding and potentially integrating these diverse approaches, firms can better thrive in today's volatile and unpredictable environment. Ultimately, our goal is to enhance decision-making, foster creativity and carve out a competitive advantage, enabling organizations to realize their full innovation potential.

2. Conceptual foundation

In the rapidly evolving landscape of contemporary business, the strategic importance of innovation management typologies has become increasingly pronounced. Before exploring these typologies, we must acknowledge foundational theories that provide a deeper understanding of our research. Notably, the works of Mintzberg (1994) and Van de Ven and Poole (1995) offer essential perspectives that inform our approach.

Mintzberg's (1994) strategic discussions illuminate the diverse nature of organizational strategies and structures. His delineation of various organizational configurations sets a backdrop against which we can contrast our proposed typologies, providing a benchmark for understanding the strategic underpinnings of innovation management. Similarly, Van de Ven and Poole's (1995)

framework offers insights into organizational change and development. Their models describe different processes through which change can occur within corporations, which is crucial for exploring how different innovation management strategies align with or diverge from these change processes.

The 1980s and 1990s saw corporations primarily focus on enhancing shareholder value while adapting to change (Holmstrom and Kaplan, 2001). Although effective under certain economic conditions, this approach has shown limitations in today's competitive environment, where cost reduction and profit growth strategies alone are insufficient (Hitt *et al.*, 2016).

Modern business scenarios demand fresh avenues for profitability, transitioning the strategic focus from mere competitive positioning to more dynamic organizational arrangements. Recognizing the critical role of individual contributions and establishing a fitting "competence architecture" becomes paramount. This architecture should seamlessly integrate technological innovation processes with business management, adapting to and proficiently navigating change (Grant and Jordan, 2015).

In this context, incorporating knowledge management into organizational practices is crucial for driving innovation and strategic development. Soliman (2015) highlighted that knowledge management transforms organizations into learning entities, fostering innovation by efficiently using the right types of knowledge. Meso and Smith (2000) argued that organizational knowledge management systems are vital resources for supporting competitive advantage. Furthermore, Meso *et al.* (2006) demonstrated that a robust learning environment significantly enhances knowledge management's effectiveness and contribution to innovation.

Despite these advancements, contemporary businesses face two primary challenges: determining the optimal organizational structure to foster innovation and defining an effective measurement system for valuing intangible assets (Cosa *et al.*, 2024). Our research addresses the first challenge, aiming to identify the most effective organizational model that resonates with the importance of learning and knowledge in established firms and those in the nascent stages of their lifecycle.

This study contrasts incremental innovation processes (Gaibraith, 1982a, 1982b; Coakes and Smith, 2007) with dynamic methods (Crozier and Friedberg, 1978; Burgelman, 1982, 1983, 2005; Wiedeler and Kammerlander, 2021). These frameworks have shaped company structures based on target markets and desired innovation productivity. However, evaluating these models reveals gaps and opportunities for refinement in the context of modern business challenges.

Integrating promising ideas into business strategy is essential for entrepreneurial success. As a manifestation of creativity, innovation often challenges traditional strategic planning logic. Organizational processes that facilitate and propagate innovation during strategy formulation are crucial, especially given the unpredictable outcomes of R&D investments (Zhao *et al.*, 2021). Innovation is a collaborative endeavor reliant on individual intellect and the extent of interaction within the organizational framework (Grant and Jordan, 2015).

We propose viewing the organizational system as a proactive entity capable of responding to environmental dynamics rather than passively adapting to competitive and social pressures (Schilke, 2014). Increasing competition, driven by the dissolution of geographical barriers and the ubiquity of the internet, forms the backdrop of our study (D'aveni, 2010). To prevent stagnation, companies must equip themselves with strategic tools that cater to the knowledge economy. These tools should enhance competitiveness and enable ventures into new business areas through organizational restructuring.

3 Research design

In line with seminal typology papers such as Helkkula *et al.* (2018), Dong and Sivakumar (2017) and Edvardsson *et al.* (2012), our study synthesizes a broad range of existing

literature to build our typologies and frameworks. We used a thorough typology research design and comparative analysis to explore various innovation approaches. Through this process, we identified and analyzed multiple dimensions of new product development and innovation. Our multi-perspective approach incorporates strategic modalities, organizational processes and theoretical frameworks to understand how different organizational models function across varied markets and stages of the business lifecycle.

The business economics literature offers numerous models for efficiently managing innovation within the organizational system. Recognizing the effectiveness of specific organizational models across different market sectors and lifecycle stages is crucial. Following Jaakkola (2020), we have developed two taxonomies for examining these models: sequential and simultaneous approaches. Cornelissen (2017) described typology papers as systematically classifying conceptual variations into distinct types, reducing complexity and organizing intricate networks of concepts. The ultimate objective is to propose multiple causal relationships within a specific setting and elucidate the variance observed in existing research (Fiss, 2011).

The subsequent section provides an in-depth analysis of these models, focusing on their theoretical and methodological aspects and highlighting their similarities and differences.

4. Typologies of innovation management

4.1 The sequential approach

The sequential approach to managing innovation involves systematically integrating innovative processes into the organizational structure, emphasizing participative management and value-sharing (Blanchard *et al.*, 1997). This model maintains hierarchical structures while promoting creativity and self-organization, resulting in a hybrid business model balancing stability and flexibility. However, rapid implementation of value-sharing principles can be challenging for mature companies due to high transition costs, especially in the manufacturing industry (Handoyo *et al.*, 2023).

Some companies may opt for gradual disassociation from the competitive context rather than intense overhauls, aiming to align traditional business logics with alternative management methodologies. Relying solely on conventional functional approaches is inadequate in the transformed business landscape and may lead to management myopia. Transitioning from a functional to a process-oriented structure fosters a proactive, change-ready environment, enhancing operational efficiency (Jones and Van de Ven, 2016).

Minimized bureaucracy and participative management ensure greater agility and market responsiveness. The sequential approach must align with operational and cultural realities to fit unique organizational cultures and complement existing values (Mingaleva *et al.*, 2022). Aligning with existing information systems ensures uninterrupted data flow and enhances innovation, especially in crises. This adaptation fosters a culture valuing methodical innovation, increasing relevance and applicability (Tidd and Bessant, 2020; Pearlson *et al.*, 2024).

4.2 The simultaneous approach

The simultaneous approach, contrasting with the sequential model, suits dynamic sectors like creative and cultural industries, fashion and technology startups. It promotes flexible structures that encourage creativity (Hervás-Oliver *et al.*, 2018; Ferreira *et al.*, 2021). This holistic model shapes the firm's mission and fosters an innovative climate by transforming innovation hubs into strategic assets for synchronous idea generation (Battisti *et al.*, 2015; Zhang and Tang, 2017).

Integrating all functional areas into a unified, iterative process, the simultaneous model reorganizes companies into collaborative workgroups focused on customer satisfaction and

economic growth, enhancing adaptability and innovation (Teece, 2020; Bernhard *et al.*, 2023). This approach requires alignment with cultural norms and robust information systems, fostering openness, flexibility and cross-functional collaboration (Henderson and Clark, 1990; Handoyo *et al.*, 2023).

Adopting agile project management methods and flexible IT platforms can support this model's dynamism (Ungureanu *et al.*, 2021). Encouraging experimentation and tolerating failure are crucial for continuous learning and adaptation. Leaders must cultivate an environment that aligns with these values to enhance innovative capacity and competitive edge (Birkinshaw and Gibson, 2004; Maharani *et al.*, 2023).

5. The sequential approach and development phases: a strategic and organizational solution for mature enterprises

The sequential organizational model strategically integrates innovation, making it particularly suitable for mature, market-leading companies. This model involves a profound transformation, redefining rules, procedures, tasks and roles to facilitate innovative progression (Battisti *et al.*, 2015). It ensures innovation becomes a natural part of the organizational fabric rather than an external imposition.

Ideal for companies with experienced leadership, the sequential approach methodically revamps the system, potentially through a modular change process, prioritizing individual roles and the overall structure. It separates innovative activities from operational tasks, creating sequential and simultaneous logic subsystems. This allows creative and operational units to function independently, mitigating conservatism.

However, challenges include potential coordination lapses across managerial levels. The division between innovative and operational units might create feedback loops, disrupting the innovation trajectory due to economic constraints or managerial caution. Once aligned with new business requirements, the sequential approach outlines five stages for transforming a business idea into a market opportunity and integrating it into top management's strategic plans (Gaibraith, 1982b).

5.1 Stages of the sequential approach

5.1.1 Design. The process begins with a creative unit generating initial proposals within technical feasibility constraints, fostering rapid growth and attracting innovative minds. However, transitioning to a traditional macrostructure may induce resistance among the creative team, who may fear it impedes their inventiveness.

5.1.2 Prototyping and experimentation. Integration of a cross-functional team is essential. Representatives from all company areas collaborate to transform ideas into viable innovations. This involves quality and market testing, requiring higher specialization and effective coordination (Forliano *et al.*, 2022).

5.1.3 Production start-up. Transitioning from prototyping to serial production and identifying distribution channels requires higher coordination across management areas. The separation between creative and operational units poses a challenge, necessitating top management's role in stabilizing information flow and enforcing structured decision-making (Kimberly, 1981).

5.1.4 Natural development. Innovation progresses along a predetermined profit trajectory. Management finalizes production and financial plans, balancing current production support with future planning. This reflects the need for non-hierarchical functioning within an established structure (Gaibraith, 1982b).

5.1.5 Strategic maneuver. Top management defines strategic direction for sustained market success, leveraging competencies through diversification, internationalization or vertical integration and reshaping the organizational structure based on outcomes (Gaibraith, 1982a).

5.2 Challenges and limitations

Despite structured progression, mature enterprises face challenges implementing this model within entrenched cultures and rigid systems. The phased nature can lead to inflexibility, stifling creativity and rapid response to market changes (Lewis *et al.*, 2014). Transitioning to an innovation-driven model may face resistance (He *et al.*, 2022). Hierarchical decision-making can create bottlenecks, and linear progression may overlook valuable iterative learning (Soetanto, 2020). Aligning outdated systems with dynamic requirements can be challenging and resource-intensive, leading to increased costs and delays (Anderson and Anderson, 2010; Sull *et al.*, 2018).

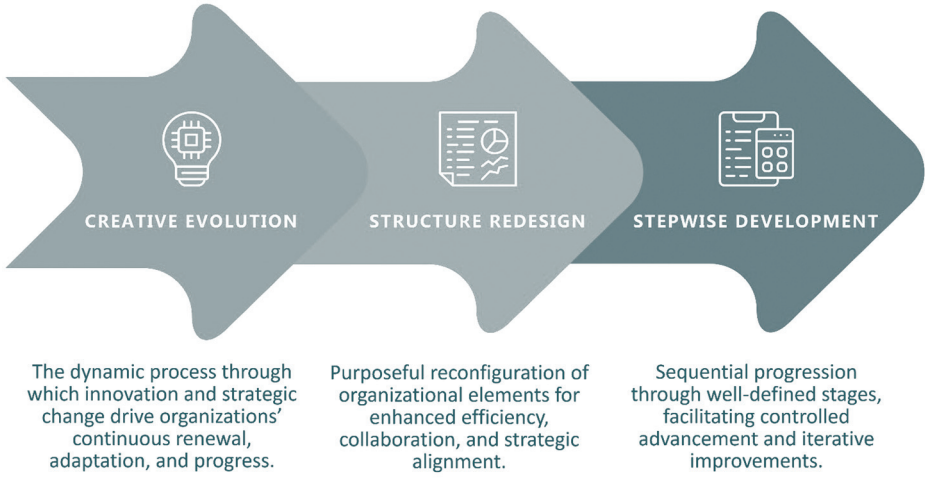
Challenges manifest in daily workflows, such as prolonged decision-making and stifled creativity. For example, a manufacturing firm transitioning to an innovation-driven model highlighted friction between bureaucratic procedures and agile response mechanisms. This led to a strategic reevaluation and the adoption of a hybrid innovation model (Peters and Buijs, 2022). This scenario underscores the dual-edged nature of the sequential approach, providing a structured framework conducive to systematic innovation while risking the reinforcement of siloed operations that impede idea flow. Integrating these approaches requires a balanced acknowledgment of their potential to foster and hinder innovation.

5.3 The sequential approach: empowering mature companies for flexibility and innovation

The sequential approach provides a clear roadmap for innovation but requires a conducive organizational culture and flexible systems. Mature enterprises must navigate these limitations carefully, ensuring the approach is adapted to fit their unique context. This acknowledgment of challenges, supported by Maier (2015), underlines the importance of a tailored, context-sensitive application in achieving effective innovation management.

Thus, the sequential approach empowers mature companies to initiate renewal processes, acquire flexibility and respond to environmental turbulence without disruptive upheavals. Figure 1 summarizes the key points of this innovation management model. Top management's role in redesigning the structure, establishing creative and operational units and ensuring coordination across different phases is crucial for success. This approach

Figure 1 The main characteristics of the sequential approach



Source: Own elaboration

allows companies to manage innovation effectively while preserving their essence and competitiveness.

6. Simultaneous approach and dynamic capabilities: a strategic and organizational solution for creative companies

The simultaneous approach, ideal for early-stage companies and those focused on creativity and technology, emphasizes continuous innovation and drives organizations toward new business models (Hargadon, 2003; Tidd and Bessant, 2020). This method relies on exploratory learning processes and requires proactive action despite uncertainty (Denning, 2018). To secure competitive advantage, firms must cultivate strategic alternatives that solidify market leadership, leveraging the entrepreneurial drive of front-line managers, mid-management support and seamless integration into corporate strategies (Markides, 2013).

Acknowledging the interconnected nature of business ecosystems is crucial for addressing modern management challenges (Birkinshaw and Gupta, 2013). The simultaneous approach aligns stages of innovation with contextual adjustments, ensuring new ventures sync with evolving business strategies (Burgelman, 2005; Knoppen and Knight, 2022). It promotes dynamic internal collaboration across corporate management, venture division management and innovators, fostering a culture of spontaneous innovation (Schilling, 2023).

However, the simultaneous approach's fluidity requires robust mechanisms for linking organizational layers and ensuring cohesive communication (Seidel and Fixson, 2013). This analysis delves into its innovation phases, managerial actions and strategic elements, comparing it to the sequential approach.

6.1 Venture definition

In this phase, venture units combine technical and economic perspectives, using financial autonomy to support initiatives. Middle-level management integrates project performance objectives with business ideas, ensuring economic viability. Top management evaluates projects for strategic fit, protecting them from traditional resistance while meeting profit objectives.

6.2 Innovation momentum

All managerial levels engage simultaneously in this phase. The primary challenge is maintaining focus on commercializing business ideas amidst relentless innovation pursuits. Venture managers prioritize product and process development and establish functional capabilities, synchronizing collaboration between venture and middle-level managers. This facilitates technology transfer and integration into the broader corporate structure.

6.3 Challenges and limitations

The simultaneous approach faces challenges, especially in organizations with entrenched cultures or rigid systems. It demands high adaptability and tolerance for ambiguity, which may clash with established habits and risk aversion (Vallaster *et al.*, 2021). For example, rapid product development cycles in a tech company can confuse employees accustomed to longer timelines, resulting in resistance and miscommunication (Ancona and Caldwell, 1992).

Emphasizing collaboration and cross-functional teams can lead to conflicts and inefficiencies without clear leadership. The fluid nature of this approach can also create resource allocation challenges, diverting attention from core activities and risking innovation fatigue (Luger *et al.*, 2018). Implementing this approach in settings with outdated systems

requires significant investment and a willingness to overhaul existing processes (Tushman and O'Reilly, 1996).

Despite these challenges, the simultaneous approach offers accelerated innovation and adaptability. Companies must align their pursuit of innovation with core values and operational integrity, ensuring balanced, strategically aligned implementation (Ghlichlee and Bayat, 2021).

6.4 Simultaneous approach: enabling continuous corporate renewal

Figure 2 demonstrates the primary attributes of this innovation management model. The dynamic capabilities model underlines three fundamental characteristics integral to the organization's managerial and organizational processes:

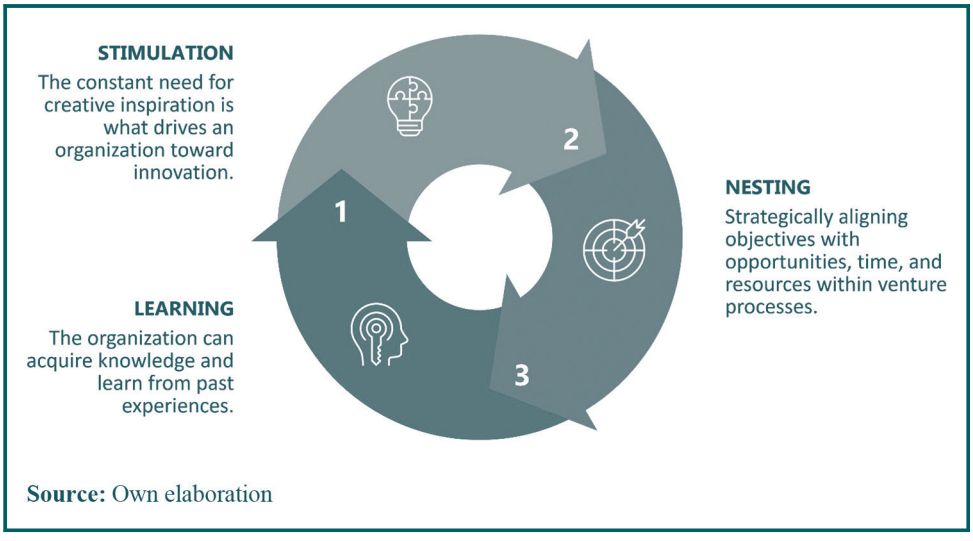
1. Learning: The organization should be able to learn from its experiences and build knowledge.
2. Stimulation: Persistent, creative stimulation propels and directs the organization toward innovations.
3. Nesting: The organization strategically selects and nests its objectives by meticulously assessing technological and market opportunities, efficiently managing time and allocating resources to venture processes.

Leveraging these processes facilitates continuous corporate renewal, activating interactions within the organization.

7. Discussion

This research explored the relationship between innovation and strategic management in contemporary enterprises, focusing on how different organizational models can drive sustainable competitive advantage. We sought to provide insights into their applicability and effectiveness in various business contexts by examining sequential and simultaneous approaches.

Figure 2 The main characteristics of the simultaneous approach



Source: Own elaboration

This section elucidates the parallels and distinctions between the sequential and simultaneous models in managing innovation, emphasizing the crucial role of the innovation process in today's competitive environment (Cosa *et al.*, 2024). Mature enterprises may gravitate toward the sequential approach for its structured and gradual implementation of innovation, while nascent, rapidly evolving firms might leverage the growth potential offered by the simultaneous approach. Table 1 illustrates the similarities and differences between these two innovation management models regarding strategic paths and organizational/managerial processes.

7.1 Strategic paths

Both models embrace dynamic innovation strategies integral to strategic management. The sequential model introduces dynamism at both entrepreneurial and managerial levels through gradual innovation (Itami and Numagami, 1992). This process follows two scenarios:

1. The existing strategy serves as a foundation for future innovation.
2. Current innovation guides strategic management cognitively.

Sequential innovation allows for a slow, progressive evolution, maintaining autonomy in the competitive landscape and making it suitable for mature organizations (Dávila *et al.*, 2023). The simultaneous model fosters a dynamic environment, enhancing strategic performance through continuous innovation and dynamic capabilities, benefiting startups and creative entities (Forliano *et al.*, 2022). The simultaneous model calls for diverse skills and emphasizes continuous corporate renewal involving entrepreneurial, managerial and operational dynamism across the organization (Zan, 2016).

7.2 Organizational and managerial processes

Analyzing both models reveals contrasts and parallels in their organizational and managerial processes. Each model underscores functional integration as vital to innovation

Table 1 Comparative analysis of the two types of innovation management

Topic	*Similarities*	*Differences*
Strategic paths	Both models draw inspiration from the dynamic approach to innovation strategy, recognizing the pivotal role of the innovation process in strategic management	■ The sequential approach involves gradually implementing innovation in the company's strategy, emphasizing the separation between strategic formulation and innovation implementation ■ The simultaneous approach integrates the innovation process with strategic management, completely overlapping the two
Organizational and managerial processes	Both models emphasize the importance of functional integration factors in the dynamic approach to innovation	■ The sequential model perceives organizational change as imminent when the organization approaches different life cycle stages. In addition, this approach adapts proactively to the changing environment ■ The simultaneous model combines the teleological driver and the evolutionary theory, viewing change as a continuous and dynamic process. Moreover, it places change at the core of the entrepreneurial approach

Source: Own elaboration

but diverges in managing organizational change. Van de Ven and Poole (1995) offer a framework to understand change, presenting four ideal types:

1. Life cycle
2. Teleological driver
3. Dialectical changes
4. Evolutionary theory

The simultaneous model combines teleological and evolutionary theories. Teleological change involves ongoing goal setting, implementation, evaluation and readjustment cycles, emphasizing continuous internal renewal. Evolutionary theory suggests gradual change focusing on enterprise advancement, although challenging for established companies (Kuebart, 2022). Dialectical change theory posits internal forces with divergent interests, balancing power for stability.

Both models recognize innovation drivers and the role of sponsors in the innovation process. Successful innovation involves identifying and capitalizing on new ideas. This requires transitioning from the organizational context to the dynamic market environment (Bogers *et al.*, 2019). Normann (2001) highlights the "innovation sensor" in idea development, interpreting stimuli and advocating for projects amidst internal challenges.

7.3 Real-world implications and managerial perceptions

Here, we explore the practical implications and managerial insights within the sequential and simultaneous innovation management approaches. The sequential approach, valued for its structured nature, offers predictability and a clear roadmap for innovation. However, its rigidity can be a drawback in rapidly changing markets like the automotive and pharmaceutical industries, where adaptability and speed are crucial (Jones and Van de Ven, 2016). Managerial feedback often highlights this inflexibility, particularly in fast-paced sectors (Luger *et al.*, 2018).

The simultaneous approach champions flexibility and responsiveness, making it preferable in dynamic industries like technology, fashion, music, video game and advertising. This model allows for an organic evolution of ideas and products, integrating various functional areas holistically. However, its lack of structured progression can lead to coordination and resource allocation challenges. Feedback from companies using both models reveals a spectrum of experiences, underlining the importance of aligning innovation strategy with overall strategic goals and market conditions (Knoppen and Knight, 2022).

While the sequential approach provides stability and clarity, it may hinder rapid innovation in fast-paced environments (Verhoef *et al.*, 2021). In contrast, the simultaneous approach offers agility and fosters continuous innovation but may challenge traditional management structures (Teece, 2020; Vallaster *et al.*, 2021). Understanding these approaches' implications can guide businesses in tailoring their innovation strategies to fit specific needs and industry dynamics.

8. Conclusion

Our study illuminates the nuanced differences and shared characteristics between sequential and simultaneous innovation management approaches. First, we proposed a typology by differentiating two archetypes in innovation management, clarifying their distinct theoretical and practical implications. Sequential approaches offer stability and predictability, making them ideal for industries with extended innovation cycles. However, due to their inherent rigidity, they can falter in fast-paced environments. Conversely, simultaneous approaches excel in dynamic settings by promoting agility and rapid

adaptation but may encounter challenges in maintaining coherence and resource management.

Our findings offer actionable strategies for organizations, encouraging them to align their innovation tactics with their distinct operational frameworks and market realities to promote sustainable growth and adaptability. This alignment is crucial for organizations aiming to navigate the intricate balance between innovation, socio-economic impact and environmental sustainability.

The study acknowledges its limitations, primarily its conceptual nature, which precludes empirical testing of the proposed models. Further research could involve empirical studies to validate our theoretical propositions and examine the roles of cultural, organizational and market dynamics. This future work could further solidify our framework and deepen the understanding of innovation management's complex mechanisms.

Ultimately, this study calls for a balanced, adaptive approach to innovation management to navigate today's global business complexities. It provides a foundation for further academic and practical exploration, advocating a holistic perspective essential in the ever-changing innovation landscape.

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