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Redefining Research and Development Strategy: Purpose-driven management and Evolutionary Organization Theory

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Abstract

This paper explores how the integration of purpose-driven management with so-called “evolutionary organizational theory”, such as holacracy and teal organizations, impacts effective innovation in the contemporary research and development (R&D) sector. In particular, it focuses on how a purpose-driven management approach aligns with an organization's mission, vision, and values, emphasizing contributions to society and stakeholder relationships. The study analyzes how purpose-driven management in R&D organizations facilitates innovative processes and maximizes individual skills and creativity. The introduction of evolutionary organizational theory enables R&D organizations to adopt more flexible and innovative approaches, suggesting this as a key to enhancing the competitiveness of technology-oriented firms. The paper proposes a new paradigm in R&D management from both theoretical and practical perspectives. This new paradigm, which combines the principles of purpose-driven management and evolutionary organization theory, aims to optimize efficiency and innovation in R&D departments. This integrated approach is concluded to contribute to the sustainable growth and promotion of innovation within organizations.

Keywords: evolutionary organization theory, innovation strategy, organizational change, purpose-driven management, technological competitiveness.

1 Introduction

On August 19, 2019, the Business Roundtable (BRT)—a coalition of major corporations including Amazon, Walmart, and Apple—released a statement regarding corporate purpose. The 2019 BRT Statement signals a shift away from the traditional shareholder-first approach and toward a stakeholder-focused capital model. This model aims to create "shared value" (value that benefits all stakeholders), generate sustainable value, invest in employees, contribute to society, and foster equitable relationships with suppliers. The BRT's announcement marks the end of the 50-year era of shareholder capitalism that began with Milton Friedman's famous words in the New York

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Times in 1970: "The social obligation of a corporation is to make a profit." **This new stakeholder-centric approach emphasizes creating value for everyone involved—**including the nation, society, community, and the business itself. Endorsed by over 150 leading companies, the 2019 BRT Statement asserts that "all stakeholders are fundamental to the corporation, and the corporation should create value for all to ensure the success of the nation, society, community, and itself." The statement offers a new perspective on the role of corporations and reaffirms the importance of purpose-driven management. Johnson & Johnson's 1943 statement, "Our Credo," is an example of purpose-driven management in that it clearly articulates the company's responsibility to customers, employees, communities, and shareholders.

Other examples of purpose-driven management include Nestlé and Unilever. These companies have gained a competitive advantage in the marketplace by sharing a common purpose: to improve the quality of people's lives through food and to promote sustainable living. They deliver sustainable results because they are purpose-driven. They demonstrate their organization's reason for being and foster innovation and creativity. They view human capital as one of their most important resources and develop new products and services using an integrated, cross-functional approach.

This article substantially expands upon the author’s previous work presented at the IIAI International Congress on Advanced Applied Informatics [5]. While the conference paper focused primarily on purpose-driven management, this study integrates evolutionary organizational theory and introduces a comprehensive research and development (R&D) management framework. The study also provides deeper theoretical insights and practical guidelines for enhancing organizational innovation. The remainder of this paper is structured as follows. Section 2 provides a synopsis of existing studies on management for research and development organizations and evolutionary organizational theory. Section 3 classifies and defines the concept of purpose-driven management. Section 4 presents a novel R&D framework that integrates purpose-driven management and evolutionary organizational theory. Section 5 uses this integrated model to analyze and explore new approaches to innovation management. Finally, Section 6 concludes the study and outlines future research directions.

2 Management for Research and Development Organization and Evolutionary Organizational Theory

The role of modern research and development (R&D) organizations is constantly evolving in response to increasingly complex technological innovations and dynamic market conditions. This section examines the historical development of R&D management and explores strategies for overcoming contemporary challenges by integrating purpose-driven management with evolutionary organizational theory.

2.1 Previous Studies for Managing Research and Development Organization

Since the 1960s, numerous studies have examined the management of corporate research and development (R&D) organizations. Through his study of communication in R&D departments, Pelz discovered that technical outcomes are closely related to the density and diversity of

relationships within an organization [6]. Lawrence introduced the concepts of organizational integration and differentiation. He emphasized collaboration between R&D and other departments, such as business and strategy, and highlighted contradictions concerning the placement of R&D within organizations [7]. Morton noted that improved information flow and activity management enhance the creativity of R&D professionals and facilitate the exchange of expertise [8]. Allen identified communication issues as a significant factor influencing R&D outcomes [9]. Prahalad analyzed R&D departments from a process perspective. Using examples from the electronics and audio industries, he demonstrated the importance of defining business units around core technologies in technology-based companies [10]. Clark emphasized the importance of integrating scientific and technological knowledge with the strengths of marketing, human resource management, engineering, and production processes. He stressed the importance of swiftly transforming technological discoveries into marketable products [11]. Fujimoto found that organizational capability, including resource allocation and human activities, significantly affects inter-firm competition outcomes [12].

Various models of R&D processes have also been examined from organizational perspectives. Throughout the 20th century, the dominant model was the in-house approach, in which all activities, from the initial R&D stages to market commercialization, were managed internally. Aoki described this as the linear model of innovation, a unidirectional progression from basic research through applied development to commercialization [13]. However, Kline argued that innovation is not linear but occurs through continuous interaction with markets, involving feedback loops at every stage [14].

2.2 Previous Studies for Evolutionary Organizational Theory

In business, an organization is defined as "a consciously coordinated activity or system of forces involving two or more people" [15]. Organizational forms have continuously evolved in response to external demands and internal goals [16, 17]. Alternative organizational structures have emerged as alternatives to traditional hierarchical models, including flat structures. Examples include the amoeba structure, which divides an organization into independent groups for autonomous management, and cylindrical organizations, which rotate managerial roles rather than maintaining fixed positions.

Recently, evolutionary organizational theory has gained attention as a novel perspective that emphasizes adaptability, flexibility, and innovation [18]. This theory helps organizations adapt to rapid environmental changes and continuous internal growth. Representative models of this theory, such as Holacracy and Teal organizations, reconsider traditional structures, decision-making processes, and communication practices.

Empirical cases from Teal and Holacracy organizations demonstrate their ability to operate with greater flexibility and transparency than traditional hierarchical organizations. These structures encourage employee autonomy, self-management, and a culture of innovation. By surpassing traditional hierarchical constraints, these organizational models foster environments of greater autonomy and accountability, thus promoting innovative practices and swift decision-making.

Integrating evolutionary organizational theory into R&D management has significant implications. Traditional R&D organizations often struggle with limited creativity, communication barriers, and slow decision-making processes. Evolutionary organizational theory addresses these

issues by proposing more flexible and open structures, thereby enhancing creativity, communication, and organizational responsiveness.

Therefore, integrating purpose-driven management with evolutionary organizational theory is crucial for contemporary R&D organizations. This integrated framework is expected to significantly increase organizational creativity, flexibility, and market adaptability. Thus, this integrative perspective reexamines the transformation of R&D departments in technology-driven enterprises, redefining the strategic value of organizations and the essential role of their R&D functions.

3 Classification of Purpose-Driven Management

Though the concept of purpose-driven management has been discussed in various studies, the term "purpose" remains somewhat ambiguous, and a clear definition has yet to be established. In this study, purpose-driven management is categorized into three groups based on introverted and extroverted perspectives: (a) Introversion-oriented, focusing on the alignment of the organizational mission, vision, and values; (b) Both introversion- and extroversion-oriented, emphasizing contributions to society; and (c) Extroversion-oriented, prioritizing relationships with stakeholders. The characteristics of these categories are detailed in the following subsections.

3.1 Purpose-Driven Management That Aims to Be Consistent with Mission, Vision, and Values

Figure 1 illustrates how a company's mission, vision, and values are aligned. This process is inherently introspective because it focuses on an organization's internal workings. These concepts are widely recognized as critical elements of business management. Specifically, the mission clarifies "where the organization is heading," the vision defines "what the organization is striving to achieve," and the values outline "how the organization intends to accomplish its objectives." However, when defined separately, these concepts do not establish a framework for comprehensive alignment. A key challenge is that these three concepts often exist in isolation, lacking clear integration. Introducing the overarching concept of purpose—defined as "why the organization exists"—effectively integrates the separate vectors of mission, vision, and values, ensuring cohesive alignment among all four concepts. The relationship among purpose, mission, vision, and values is summarized in Table 1. Purpose is distinguished by incorporating an external societal perspective, thereby clarifying the rationale behind the organization's existence and highlighting its societal value and significance. The mission is typically articulated from the organization's perspective, describing specific goals and actions needed to achieve organizational objectives. Vision comprises two primary components. First, it defines the organization's desired future state or aspiration. Second, it articulates the organization's intermediate goals in pursuit of its overall mission. Values consist of two aspects: core principles that are essential to the organization or its brand, and behavioral standards that guide organizational actions.

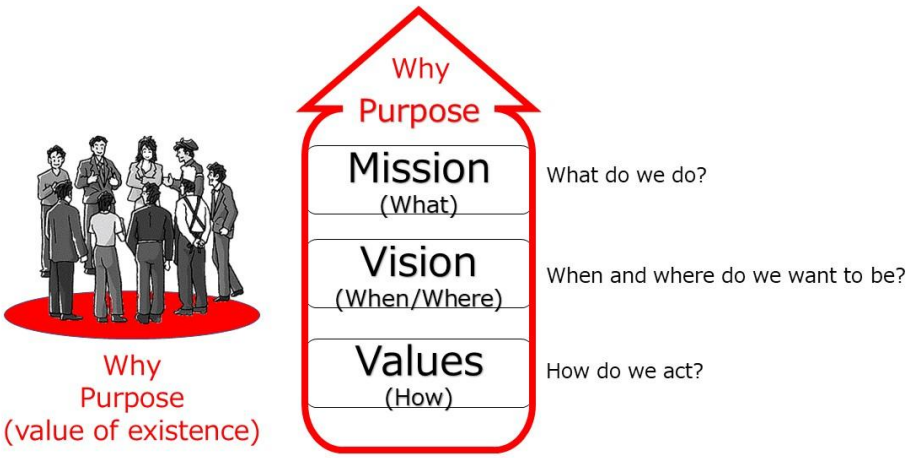

Figure 1: Alignment of mission, vision, and values through purpose-driven

Table 1: Purpose and how it relates to mission, vision, and values

purpose	why	It has the characteristic of being a third-party view of society: (1) clarify the reason for the company's existence. (2) clarify the value of the enterprise's existence to society.
mission	What	It is often presented from the perspective of the enterprise (the first person): (1) clarify what needs to be done to achieve the goals. (2) clarify what the company does.
vision	When/ Where	There are two types: those describing the state of society and those describing the state of the organization: (1) define the condition to be achieved in the process of achieving the purpose and/or mission. (2) define the state to be achieved in the future.
value	How	(1) define the values to be cherished as a company/brand. (2) define the standards of behavior to be emphasized.

3.2 Purpose-Driven Management That Aims to Contribute to Society

Purpose-driven management contributes to society and exhibits both introverted and extroverted characteristics. It typically involves initiatives related to the Sustainable Development Goals (SDGs). Historically, profit-driven efficiency has resulted in mass production and consumption, as well as significant environmental impact. Consequently, addressing the SDGs has become an essential strategic priority for contemporary businesses. Purpose-driven management is widely advocated as a framework through which organizations can integrate environmental

sustainability perspectives aligned with the SDGs, forming a foundation for responsible corporate action.

3.3 Purpose-Driven Management That Emphasizes Stakeholder Relationships

Purpose-driven management that emphasizes stakeholder engagement is inherently extroverted, focusing on various external parties. The 2019 BRT Statement explicitly references this type of management, highlighting critical issues such as job creation, fostering innovation, and delivering essential goods and services. The statement also outlines five key commitments to stakeholders: (a) meeting customer expectations for value and service; (b) investing in employees by ensuring fair wages and providing training suited to a rapidly evolving society; (c) conducting fair and ethical business practices with suppliers; (d) delivering sustainable investment value to shareholders; and (e) supporting local communities and protecting the environment. Organizations that fail to clearly define their goals regarding these commitments risk appearing disconnected from global societal expectations, which could ultimately lead to a loss of stakeholder trust and support.

4 Transforming Research and Development Organization According to the Philosophy of Purpose-Driven Management and Integrating Evolutionary Organizational Theory

Figure 2 illustrates Generations I through III, which are traditionally recognized as distinct phases of R&D evolution. It also depicts Generation IV, a concept proposed in this paper. Philip categorized the evolution of R&D into three generations [19]. The first generation, known as discovery-driven R&D, involved technology-based enterprises that primarily conducted research in centralized corporate laboratories. The second generation, characterized by project-based R&D, emerged around 1960. In this generation, development became structured around specific projects. The third generation, strategy-based R&D, evolved from the second generation in the 1970s. This generation established an integrated approach in which R&D departments, business units, and corporate management jointly implemented strategic activities. The third-generation R&D concept is widely recognized and implemented in contemporary business practices.

Since the early 21st century, the environment in which enterprises operate has undergone fundamental changes, often referred to as "VUCA." VUCA—an acronym representing volatility, uncertainty, complexity, and ambiguity—originally emerged in U.S. military strategy to describe the unpredictable and complex nature of international affairs after the Cold War. Around 2010, the concept entered business terminology as companies increasingly struggled to predict future trends amid economic globalization. The term "VUCA World" gained further prominence after it was discussed at the 2016 World Economic Forum in Davos, Switzerland. Since then, it has become a widely recognized descriptor of contemporary business environments [20].

In this context, organizations, especially technology-driven enterprises, require a new strategic approach to innovation management. Purpose-driven management has emerged as an influential concept suited to addressing these contemporary challenges. The period from approximately 2020 onwards is referred to as the fourth generation of R&D: "purpose-driven R&D." This shift is driven by significant changes in societal values and the R&D environment. Societal changes are primarily influenced by three factors: increased recognition of sustainability, diverse work attitudes and styles, and the growing influence of Millennials and Generation Z. Concurrently,

the R&D environment is shaped by the need for quick responses to market changes and the growing importance of internal organizational dynamics. In purpose-driven R&D, intrinsic motivation rooted in organizational purpose and empathy is the primary driving force.

Furthermore, evolutionary organizational theory significantly contributes to the effective implementation of fourth-generation, purpose-driven R&D. By emphasizing principles such as autonomy, decentralized decision-making, and organizational transparency, evolutionary organizational theory supports the development of flexible and creative R&D processes that optimize individual capabilities and innovation potential [18]. Integrating evolutionary organizational theory into purpose-driven R&D enhances traditional R&D frameworks by fostering higher levels of autonomy and enabling the organic formation of diverse, cross-functional teams within the organization. This approach encourages team members to transcend traditional role boundaries and engage more broadly in organizational decision-making, accelerating innovation and enhancing overall organizational responsiveness.

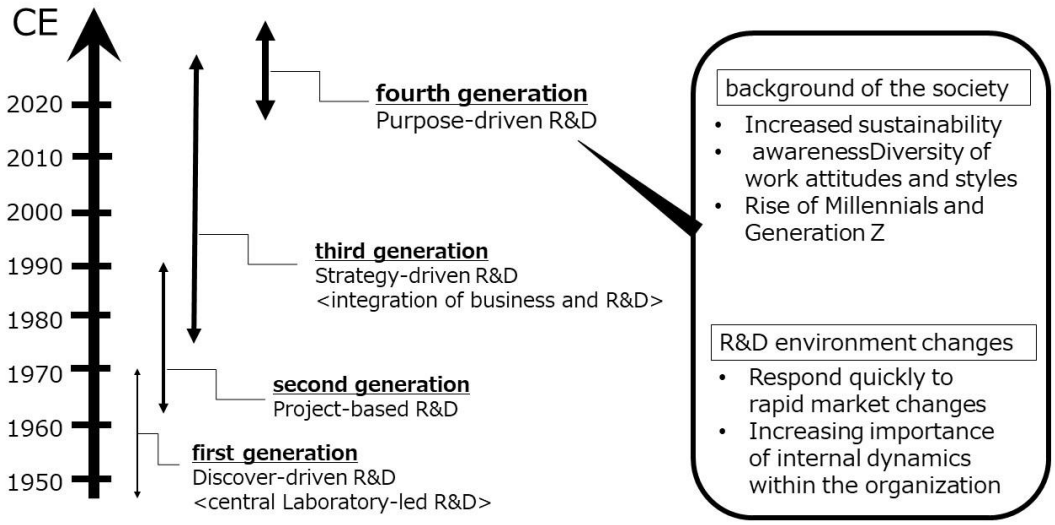

Figure 2: Generational Classification of Research and Development

5 New Directions in Innovation Management: A New Perspective by Integrating Purpose-Driven Management and Evolutionary Organizational Theory

For technology-driven companies, research and development (R&D) activities are essential to managing innovation. In contemporary society, characterized by rapid scientific and technological advancements, these companies must continually develop new technologies and innovations to remain competitive. Purpose-driven R&D, identified as the fourth generation of R&D management, offers a novel approach that extends beyond traditional, technology-centric frameworks to address increasingly sophisticated innovation challenges. Integrating the three perspectives, which include (a) aligning with the organization's mission, vision, and values, (b) contributing to society, and (c) emphasizing stakeholder relationships, introduces the transformative factors that

R&D organizations need to effectively implement this approach.

5.1 Research and Development from Purpose-Driven Management That Aims to Be Consistent with Mission, Vision, and Values

Research and development (R&D) is central to the management of innovation in technology-oriented companies, which often face similar challenges. One such challenge is relying too heavily on internal technical resources during product development, which decreases the efficiency and effectiveness of R&D. Developing and accumulating proprietary technological capabilities is usually time-consuming, resource-intensive, and costly. Furthermore, organizations that focus too much on their internal technologies often overlook critical market trends and emerging customer needs, thereby undermining their competitive advantage.

Addressing these challenges requires an approach aligned with third-generation strategic R&D. This approach involves proactive collaboration between R&D departments, business units, and strategic management teams to anticipate market changes. Purpose-driven R&D, defined in this paper as the fourth generation of R&D, builds on these earlier concepts by establishing a cohesive vision and shared organizational purpose based on empathy for the company's societal and market-oriented value. This approach enables organizations to strategically develop products and services in anticipation of market shifts and emerging customer needs.

Additionally, purpose-driven R&D involves revising internal processes related to information sharing and decision-making. This allows organizations to respond quickly to changing market conditions. This management approach identifies core technologies that align with the company's core competencies, clearly differentiating the company from competitors through the strategic application of open innovation. By clarifying their unique value proposition and societal purpose, organizations can enhance their competitiveness, improve the effectiveness of their R&D activities, and increase the efficiency of their investments. Consequently, core competence strategies and open innovation initiatives are promoted simultaneously, functioning synergistically to strengthen organizational adaptability and innovation capabilities.

5.2 Research and Development from Purpose-Driven Management That Aims to Contribute to Society

Incorporating a social purpose perspective into R&D activities is highly significant. Unlike traditional innovation approaches that focus primarily on problem-solving, this perspective fosters the development of an ecosystem aligned with an organization's broader social values. By emphasizing social impact, organizations can positively influence diverse stakeholder groups, enhancing their overall competitiveness and strengthening their brand image. This approach fosters sustainable business growth and promotes healthy market development.

Figure 3 illustrates a typical R&D process divided into several stages. Later stages of R&D have fewer uncertainties, making systematic project management feasible. In contrast, the early stages, typically spanning from initial idea generation to prototyping, are characterized by high uncertainty. Systematic project management methodologies are less applicable during this phase. Instead, the process from idea conception through hypothesis testing and prototyping relies heavily on the intrinsic motivation of R&D personnel. Traditional financial metrics, such as return on investment (ROI), are not useful for evaluating research projects in these early stages because accurately predicting success and growth potential is difficult. Consequently, early-stage R&D requires evaluation criteria that go beyond conventional financial indicators. Adopting an

evaluation framework based on purpose-driven management that focuses on societal contributions enables the development of new, non-financial criteria. Examples include assessing projects based on their environmental impact or contributions to local community well-being.
Furthermore, aligning R&D project selection with organizational social values and long-term vision can significantly enhance employee motivation and foster organizational unity. Organizations with clear social objectives are more likely to innovate effectively because their motivation extends beyond immediate financial returns. Additionally, companies pursuing social value can strengthen trust-based relationships with customers and business partners, creating opportunities for new collaborations and business ventures. Integrating a purpose-driven management perspective into R&D enables organizations to fulfill their societal responsibilities, thereby enhancing their competitive advantage and driving sustained growth. This strategic alignment also plays a critical role in broader corporate management. Ultimately, companies can create new forms of value, establish market leadership, and achieve unprecedented levels of innovation by embedding a social purpose into R&D activities. This approach fosters lasting business success and positive social outcomes.

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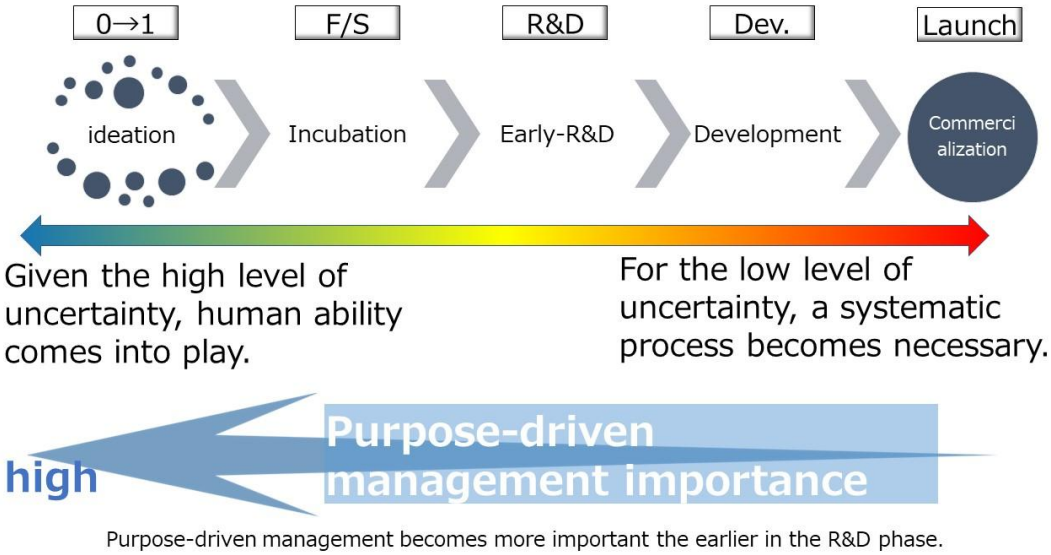

Figure 3: Typical research and development process and its characteristics

5.3 Research and Development from Purpose-Driven Management That Emphasizes Stakeholder Relationships

Traditional management practices often prioritize profit-driven considerations when selecting R&D topics. These practices are primarily influenced by relationships with shareholders, who are key stakeholders. This profit-centric mindset compels companies to focus excessively on short-term financial outcomes and potentially overlook opportunities vital for long-term growth. Purpose-driven R&D, identified here as the fourth-generation approach, shifts the focus toward creating meaningful value for customers and stakeholders. This customer-centric perspective should extend beyond an organization's immediate financial gains and be incorporated into its long-term strategic vision.

To create customer-centric value, organizations must systematically and accurately identify explicit and latent customer needs. This involves uncovering genuine customer expectations that existing products or services do not yet fully meet. Organizations then formulate and implement strategic actions to address these gaps. Effective strategies include rigorous market research, customer interviews, and the systematic application of innovative methodologies such as design thinking and the Lean Startup approach. These strategies facilitate the creation of responsive, value-driven solutions.

Purpose-driven management emphasizes meaningful engagement with diverse stakeholders, enabling organizations to clearly communicate their purpose, goals, and strategic journey. This inclusive approach fosters an integrated R&D structure involving customers, partners, and internal stakeholders unified by a shared organizational purpose and strategic objectives. With clearly articulated purpose and mission statements, organizations can align internal initiatives with external stakeholder expectations to achieve social impact and sustainability.

Creating an inclusive R&D structure requires thoroughly reviewing and adapting internal organizational processes and structures to foster an innovative environment. This requires fostering an organizational culture characterized by openness, collaboration, and leadership empowerment that actively encourages idea generation and cross-functional cooperation. Furthermore, collaborating with experts from different industries and academic disciplines introduces fresh perspectives and specialized knowledge, enhancing creativity and innovation. Strategically managing the process of external engagement and internal alignment is essential to maintaining a clear focus on the organization's overarching goals.

Selecting R&D projects through this stakeholder-oriented lens requires balancing profitability with broader objectives, such as creating customer value and ensuring long-term sustainability. This balance can be achieved by integrating purpose-driven management principles into an organization's culture, structural design, strategic decision-making processes, and optimized resource allocation. Through these efforts, organizations can accelerate innovation, enhance market competitiveness, and build lasting stakeholder trust and support.

6 Conclusion

In the VUCA era, R&D organizations must accurately predict changes to the environments of their target market segments. For inherently unpredictable categories, scenario planning and other strategic foresight methods are necessary. This approach emphasizes flexibility and autonomy, aligning closely with evolutionary organizational theory and purpose-driven management principles. It is also crucial to formulate R&D and commercialization strategies consistent with overall corporate strategies that are responsive to explicit and latent market trends and customer needs. The three perspectives of purpose-driven management clarify an organization's internal and external value propositions. Integrating these perspectives with evolutionary organizational theory enables the entire corporate organization, including R&D, to interact rapidly and frequently with the market, creating an innovation ecosystem centered on core competencies.

Building on the findings of this study, future research will examine specific examples and implications of integrating purpose-driven management with evolutionary organizational theory in R&D settings. A key next step is to examine how evolutionary organizational theory is implemented in business environments and how it interacts synergistically with purpose-driven management. These investigations aim to provide actionable guidelines for improving the efficiency, flexibility, and sustainability of R&D organizations. Furthermore, concrete empirical studies are

planned to quantitatively assess the effectiveness of the integrated model presented in this paper. Specifically, future research will analyze changes in innovation quality and quantity, employee motivation, and market responsiveness before and after organizational transformations within selected technology-oriented companies.

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