

# From Viability to Scalable Growth: The Viable Systems Approach and Its Relationship to Organizational Growth

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## Abstract

The trajectory of organizational growth in contemporary business environments is fundamentally associated with an entity's ability to manage complexity, adapt to environmental disturbances, and maintain internal cohesion. This study examines organizational growth through the Viable Systems Approach (VSA) and the Viable System Model (VSM), integrating recent literature with evidence from case studies in healthcare, food services, energy infrastructure, automotive quality management, and microenterprises. The analysis identifies seven mechanisms linking viable-system design to organizational growth. The study concludes that growth is viable when these mechanisms expand at a rate at least equal to the rate at which complexity increases as a result of organizational expansion. The Viable Systems Approach and the Viable System Model should not be understood merely as theories of organizational survival; rather, they provide an analytical framework for determining whether growth strengthens or undermines organizational viability. Growth that exceeds coordination and cooperation capabilities generates fragility, whereas growth supported by recursive autonomy, effective communication, strategic learning, and a coherent organizational identity enhances resilience and creates long-term value.

Keywords: Viable Systems Approach; Viable System Model; organizational growth; organizational viability; organizational design; scalability; organizational resilience; sustainable growth.

## 1. Introduction

Organizational growth occupies a central position in strategy, entrepreneurship, economics, and organizational theory. Companies and public organizations are commonly regarded as successful when they increase their revenues and assets, service capacity, workforce, geographical coverage, or overall impact. However, expansion may also lengthen decision-making chains, generate coordination failures, create functional overlap, increase information-processing burdens and internal conflicts, and weaken strategic identity (Barile, 2024, p. 9). Growth can become sustainable only when operational capabilities, coordination, control, environmental intelligence, and organizational identity develop simultaneously. From this perspective, growth is not merely an increase in size; it represents a qualitative transformation in an organization's capacity to manage internal and external variety (Espejo & Reyes, 2011, p. 15).

Recent evidence from fast-growing firms indicates that growth is often discontinuous and accompanied by substantial reorganization costs, making internal organization an essential

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component of the growth process rather than a secondary administrative concern (Morettini, Potì, & Gabriele, 2023, p. 606). Consequently, conventional measures of growth do not always provide a complete picture. An organization may increase its sales while weakening its quality controls, expand geographically while becoming less responsive to local conditions, or diversify its products while fragmenting its identity (Pfiffner, 2022, p. 10). Such growth may appear successful in financial statements while simultaneously reducing the organization's ability to maintain a coherent and adaptive existence. It is therefore necessary to distinguish between quantitative expansion and viable growth—that is, growth that preserves or strengthens the organization's operational integration, adaptive capacity, identity, and relationships with stakeholders over time (Espinosa, 2023, p. 15).

The Viable Systems Approach provides an appropriate theoretical foundation for this distinction. It views the organization as an open, relational, and context-dependent system rather than merely as a collection of isolated resources or departments. Viability emerges through interactions among the organization, its subsystems, its governing body, and relevant environmental or suprasystemic entities (Barile, Saviano, Pels, & Polese, 2014, p. 567). Concepts such as consonance, resonance, context, structure, system, and value co-creation draw attention to the quality of the relationships through which organizational resources are transformed into productive resources (Golinelli, 2010, p. 17).

The Viable System Model, developed by Stafford Beer, complements the Viable Systems Approach by identifying the functional structure required for viability. The model distinguishes five essential functions: primary operations, coordination, operational control, environmental intelligence, and policy or identity (Beer, 1995, p. 57). It also emphasizes recursion, whereby viable units are embedded within other viable units and possess meaningful autonomy at their respective levels. These functions do not necessarily correspond to formal organizational departments; rather, they represent organizational capabilities that may be distributed among individuals, teams, technologies, routines, and governance structures (Pfiffner, 2022, p. 23).

The Viable Systems Approach and the Viable System Model provide a theory of growth readiness. They explain why some organizations can expand without losing responsiveness, whereas others experience coordination crises or strategic paralysis (Espinosa, 2023, p. 40). Growth increases the variety of products, customers, technologies, transactions, legal obligations, locations, and stakeholder expectations confronting an organization. A viable organization must therefore respond by strengthening its capacity to attenuate, amplify, interpret, coordinate, and absorb such variety (Fattoum, 2024, p. 740).

Accordingly, this article addresses three questions:

- How do the Viable Systems Approach and the Viable System Model explain the organizational conditions required for growth?
- Which viable-system functions are most closely associated with scalable and sustainable growth?
- What lessons can be derived from recent real-world applications?

The article adopts a conceptual review focused on the foundational literature required to explain the distinction between the Viable Systems Approach and the Viable System Model and provides a structured theoretical and comparative analysis of published applications.

## 2. Conceptual Foundations

### 2.1. Distinguishing the Viable Systems Approach (VSA) from the Viable System Model (VSM)

The terms Viable Systems Approach, Viable System Model, Viable Systems Theory, and related systemic concepts are closely interconnected. The VSM originated in Stafford Beer's work on organizational cybernetics and proposes a functional architecture for organizations capable of maintaining an autonomous existence (Barile & Polese, 2010, p. 22). The VSA emerged more explicitly within the Italian management literature and extended systemic thinking toward governance, value, stakeholder relationships, cognition, and context. Although the expression "Viable Systems

Theory” may be used as an umbrella concept, analytical precision requires distinguishing the relational orientation of VSA from the organizational architecture of VSM (Barile, Saviano, Polese, & Di Nauta, 2018, p. 54).

VSA begins from the premise that an organization cannot be fully understood through its formal structure alone. Structure consists of components, roles, rules, and potential relationships, whereas a system emerges when these relationships are activated to achieve a specific purpose within a particular context. Two organizations may have similar organizational charts yet function as fundamentally different systems because of differences in communication patterns, stakeholder relationships, governing assumptions, and decision-making processes. Organizational growth should therefore be assessed in terms of the system operating within the organization rather than simply by counting newly added structural components (Barile, 2024, p. 36).

The Viable System Model asks whether the functions necessary for viability exist and are appropriately interconnected. Its diagnostic power does not depend on a particular organizational form: a company, public authority, digital platform, hospital unit, or community organization can all be examined through the same functional questions: Who performs the fundamental transformation? How are operating units coordinated? How are resources monitored? How is the future considered? How does the organization preserve its identity? (Reynolds & Holwell, 2020, p. 23).

Thus, VSM explains the functional conditions under which an organization can organize itself, whereas VSA explains how viability is constructed relationally through interaction with relevant actors. VSM is particularly useful for internal diagnosis and recursive design, while VSA is especially valuable for understanding context, governance, value co-creation, and stakeholder alignment. Together, they provide a multilevel explanation of organizational growth (Golinelli, 2010, p. 41).

**Table 1. Distinction between the Main Concepts**

| Concept                       | Main area of concern                                                                    | Unit of analysis                                   | Contribution to growth analysis                                                             |
|-------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------|
| Viable Systems Approach (VSA) | Relationships, context, governance, cognition, consonance, and value co-creation        | Organization embedded in networks and suprasystems | Explains the dependence of growth on stakeholder alignment and legitimacy                   |
| Viable System Model (VSM)     | Necessary organizational functions and communication channels                           | Recursive operations and operating units           | Explains how autonomy, coordination, control, intelligence, and identity enable scalability |
| Organizational growth         | Changes in size, scope, capabilities, reach, or impact                                  | Firm, unit, network, or public organization        | Identifies outcomes whose sustainability must be evaluated                                  |
| Viable growth                 | Expansion accompanied by the preservation or strengthening of adaptability and identity | Relationship between organization and environment  | Integrates financial, operational, relational, and sustainability outcomes                  |
| Organizational resilience     | Capacity to anticipate, respond, recover, and adapt                                     | Organization under conditions of disturbance       | Reveals whether growth has generated strength or additional fragility                       |
| Dynamic capabilities          | Sensing opportunities, seizing them, and reconfiguring resources                        | Managerial and organizational processes            | Explains strategic renewal that complements VSM                                             |

|  |  |  |                                    |
|--|--|--|------------------------------------|
|  |  |  | intelligence and control functions |
|--|--|--|------------------------------------|

**Source:** Author's synthesis based on Barile (2024), *Systems Thinking and Viable Systems*.

## 2.2. Viability as Dynamic Equilibrium

Viability does not mean organizational stability in the sense of rigidity. A viable organization continually changes while preserving an identity that its members and stakeholders can recognize. It maintains essential variables within acceptable boundaries while adapting its products, structures, technologies, and relationships (Beer, 1985, p. 44). Viability can therefore be more accurately described as a dynamic equilibrium between continuity and transformation (Espejo & Reyes, 2011, p. 65).

This understanding is particularly important because organizational growth changes the ways in which internal activities are performed. A small company may coordinate production through direct conversations, but these informal mechanisms may cease to function once the company adds locations, products, specialists, or external partners (Morettini, Potì, & Gabriele, 2023, p. 610). An organization cannot preserve viability simply by enlarging its original procedures. It must qualitatively redesign coordination, delegation, information processing, and strategic control (Ambriz, Sánchez-García, & Núñez-Río, 2024).

VSA also distinguishes between consonance and resonance. Consonance refers to potential compatibility among actors, resources, structures, expectations, or values, whereas resonance emerges when compatible relationships are activated and generate reciprocal outcomes (Barile, Saviano, Polese, & Di Nauta, 2018, p. 53). In growth contexts, signing a partnership agreement or entering a new business ecosystem may create structural consonance, but actual growth benefits arise only when interactions produce knowledge exchange, trust, innovation, or coordinated market access (Iandolo, Loia, Fulco, & Nespoli, 2021, p. 1990).

## 2.3. Requisite Variety and the Law of Required Variety

In simplified organizational terms, the law of requisite variety states that variety can be effectively absorbed only through sufficient variety in the regulating system. As an organization expands, it encounters a larger number of possible environmental conditions and generates more internal combinations that require regulation. If managerial and informational variety does not increase proportionately, decision makers may oversimplify reality, overlook weak signals, impose inappropriate standardization, or become overwhelmed by exceptions (Espejo & Reyes, 2011, p. 30).

Managing variety does not mean that the organization's headquarters should handle every detail. Viable systems combine variety attenuation and amplification. Standard procedures, digital transactions, risk boundaries, and decentralized decision rights reduce unnecessary variety (Pfiffner, 2022, p. 60). Conversely, training, communication networks, analytics, scenario planning, and stakeholder engagement amplify the organization's capacity to perceive and respond to environmental variety. The objective is not to maximize information but to provide relevant and sufficient information at the level where action can be taken (Espejo, 2022, p. 1170).

**Table 2. Diagnostic Questions for Viable Growth**

| Dimension                   | Diagnostic question                                                                |
|-----------------------------|------------------------------------------------------------------------------------|
| <b>Purpose and identity</b> | Is the organization's purpose sufficiently clear to guide decentralized decisions? |
| <b>Operations</b>           | Which units directly produce value for customers or beneficiaries?                 |
| <b>Autonomy</b>             | Which operational decisions can be made locally without escalation?                |
| <b>Coordination</b>         | Where do conflicts, delays, duplication, or oscillations occur repeatedly?         |

|                               |                                                                                         |
|-------------------------------|-----------------------------------------------------------------------------------------|
| <b>Resource control</b>       | Are resources allocated according to systemic priorities?                               |
| <b>Audit</b>                  | Can management independently verify operational conditions?                             |
| <b>Intelligence</b>           | Who scans markets, technologies, regulations, and stakeholder expectations?             |
| <b>Present–future balance</b> | Are current efficiency pressures crowding out experimentation?                          |
| <b>Recursive structure</b>    | Do business units and teams possess their own viable capabilities?                      |
| <b>Context</b>                | Which stakeholders can support or constrain organizational growth?                      |
| <b>Sustainability</b>         | Does growth preserve the long-term viability of employees, communities, and ecosystems? |
| <b>Growth readiness</b>       | Which viable function would become the first bottleneck if activity doubled?            |

**Source:** Pfiffner (2022), *The Neurology of Business: Implementing the Viable System Model*, Springer. DOI: 10.1007/978-3-031-14260-4.

### 3. Organizational Growth as a Systemic Process

Organizational growth should be understood as a change in the relationship between an organization and its environment. Revenue growth, for example, generally reflects an increase in interactions with customers, transactions, suppliers, operating processes, contractual obligations, and reputational risks. Employment growth creates new specializations and coordination requirements, while geographical expansion multiplies regulatory, cultural, logistical, and market differences. Growth therefore produces variety before it produces financial benefits (Coad, Daunfeldt, Hölzl, Johansson, & Nightingale, 2014, p. 92).

Research on medium-sized and fast-growing firms indicates that expansion is often “lumpy” or irregular because firms incur reorganization costs when resources, capabilities, and managerial structures cannot be perfectly synchronized with demand. This finding supports a viable-systems interpretation because growth stages move an organization away from its existing equilibrium and require the creation of new operating units, communication channels, resource-allocation processes, and strategic capabilities (Delmar, Davidsson, & Gartner, 2003, p. 192).

Research on dynamic capabilities likewise indicates that growth depends on the ability to sense opportunities, mobilize resources, collaborate, and reconfigure competencies (Teece, 2007, p. 1330). Research on dynamic capabilities and organizational agility further emphasizes the importance of organizational responsiveness under conditions of risk, uncertainty, and innovation (Teece, Peteraf, & Leih, 2016, p. 17). Thus, growth depends not simply on possessing more resources but on maintaining proportionality and alignment among different capabilities.

VSA contributes to this discussion by interpreting growth as an internally emergent process in which resources do not possess fixed value independently of the system in which they are used (Barile & Polese, 2010, p. 27). New technologies, financing, employees, and partnerships contribute to growth only when they are integrated into a coherent pattern of relationships. The governing body must identify relevant actors, select achievable objectives, and create conditions under which resources can interact productively (Golinelli, 2010, p. 45).

Accordingly, the viable-systems perspective rejects the assumption that all forms of growth are beneficial. Expansion that damages quality, employee commitment, environmental legitimacy, or stakeholder trust may reduce the likelihood of organizational survival (Stubbs & Cocklin, 2008, p. 110). Conversely, an organization may improve its viability by discontinuing a product that is difficult to manage, decentralizing an excessively expanded department, or temporarily limiting growth while

simultaneously strengthening its organizational capabilities. Sustainable growth is therefore selective and systemic rather than unlimited (Formisano, Quattrociochi, Fedele, & Calabrese, 2018, p. 7).

#### **4. The Viable System Model as a Structure for Growth**

##### **4.1. System 1: Autonomous Value-Producing Units**

System 1 consists of the primary activities through which an organization achieves its purpose. In manufacturing companies, these activities may involve production lines or value chains; in hospitals, they may involve clinical pathways; in universities, academic programs or research units; and in service companies, market-oriented service systems. To sustain growth, System 1 units need sufficient autonomy to respond to their local environments (Vik, Finnestrand, & Flood, 2022, p. 210).

Autonomy supports growth because it reduces the amount of operational variety that must be escalated to senior management. Local units can adjust schedules, solve customer problems, experiment with service-delivery methods, and develop specialized knowledge. However, autonomy is effective only when units remain accountable to the identity and constraints of the larger system. Unrestricted autonomy can lead to duplicated costs, conflicting standards, and internal competition (Fattoum, 2024, p. 750).

Recursive organizational design also enables growth without requiring every decision to be made by central authorities. Each autonomous unit can be treated as a viable system containing its own operations, coordination, control, intelligence, and policy functions. Growth can consequently be achieved by creating units capable of self-organization and development rather than relying continuously on centralized structural control (Espinosa & Martinez-Lozada, 2025, p. 10).

##### **4.2. System 2: Coordination and Oscillation Control**

System 2 provides the protocols and communication processes that prevent autonomous operations from destabilizing one another. Examples include shared schedules, interoperable information systems, standardized quality requirements, conflict-resolution mechanisms, interface agreements, and common operating procedures. These mechanisms become increasingly important as the number and diversity of operating units increase (Pfiffner, 2022, p. 37).

Growth often fails at the interfaces between departments rather than within the departments themselves. Sales may promise delivery levels that production cannot achieve; one department may compete with another for scarce specialists; product teams may introduce incompatible technologies; or decentralized units may interpret risk policies differently. System 2 reduces these oscillations without requiring headquarters to manage every operational detail (Chávez, Nava, Escobar, & Matamoros, 2025, p. 8).

Excessive standardization, however, is also dangerous. If coordination rules eliminate local discretion, the organization loses the variety required to respond to different markets. The appropriate question is therefore not “centralization or decentralization?” but rather: “Which constraints are necessary to preserve coherence, and which decisions should remain local?” (Espejo, 2022, p. 1167).

##### **4.3. System 3 and System 3\*: Resource Regulation, Synergy, and Audit**

System 3 manages the organization’s present operational reality. It negotiates resources with operating units, creates synergies, analyzes performance information, and ensures that collectively required standards are maintained. In the context of growth, System 3 determines whether capital, talent, technology, and managerial attention are allocated according to systemic priorities rather than centralized political influence (Pfiffner, 2022, p. 36).

The System 3\* audit channel complements routine reporting through direct or periodic investigation. As organizations grow, senior management becomes increasingly dependent on aggregated indicators that may conceal operational risks. Independent audits, process observation, customer feedback, compliance reviews, and direct access to data help management compare reported performance with operational reality (Adamides, Katopodis, Mountouris, & Sfetsos, 2023, p. 620).

System 3 may nevertheless become a constraint on growth when it turns into an instrument of centralized management. A mature System 3 defines resource commitments and accountability boundaries rather than taking routine operational decisions. Its purpose is to create coherence and cooperation while preserving the autonomy required for local adaptation (Beer, 1985, p. 60).

#### **4.4. System 4: Environmental Intelligence and Innovation**

System 4 connects the organization's current operations with its anticipated future environment. It encompasses environmental scanning, strategy development, research and development, innovation portfolios, scenario planning, technology assessment, market intelligence, and interaction with the wider ecosystem. System 4 is therefore the primary mechanism through which a viable system connects adaptation with growth (Teece, 2007, p. 1333).

Digital technologies can strengthen System 4 through data collection and processing. However, more data do not automatically produce better intelligence. VSA research emphasizes the distinction between information, interpretive schemes, and value categories. Analytics may identify emerging patterns, but managers still require conceptual frameworks and values through which information can be interpreted. Artificial intelligence may amplify decision variety, but it cannot replace organizational purpose or final human judgment (Fredrich, Gudergan, & Bouncken, 2022, p. 621).

#### **4.5. System 5: Identity, Values, and Policy**

System 5 defines what the organization is, what it is not, and the principles according to which conflicts are resolved. It balances System 3's concern with operational stability against System 4's pressure for transformation (Beer, 1995, p. 53).

Identity becomes particularly important during diversification, acquisitions, internationalization, and digital transformation. Growth creates multiple attractive opportunities, but pursuing all of them may weaken strategic coherence. A clear identity enables decision makers to distinguish opportunities that reinforce the system's purpose from those that merely increase short-term revenue.

System 5 also influences decision autonomy. Employees and operating units can exercise discretion effectively when they understand the organization's purpose, values, and non-negotiable boundaries. Evidence from high-reliability and emergency-response systems indicates that formal delegation alone is insufficient: conflicting views, perceived risks, and value differences can prevent actors from exercising autonomy even when it has been formally granted (Weick & Sutcliffe, 2015, p. 63).

**Table 3. Proposed Performance Dashboard for Viable Growth**

| <b>Category</b>     | <b>Illustrative indicators</b>                                          |
|---------------------|-------------------------------------------------------------------------|
| Quantitative growth | Revenue growth, employment growth, market reach, service volume         |
| Growth quality      | Contribution margin, customer retention, quality-adjusted outputs       |
| System 1            | Productivity, defects, safety, local customer outcomes                  |
| System 2            | Coordination delays, recurrence of conflicts, reliability of interfaces |
| System 3            | Resource productivity, allocation time, realization of synergies        |
| System 3*           | Audit exceptions, control reliability, closure of corrective actions    |
| System 4            | Sensing speed, experimentation, innovation conversion                   |
| System 5            | Alignment with purpose, strategic coherence, trust, legitimacy          |
| Recursive autonomy  | Local decision making, escalation rate, speed of local adaptation       |
| Resilience          | Detection time, recovery time, reserves, retention of learning          |

|                                  |                                                         |
|----------------------------------|---------------------------------------------------------|
| Sustainability                   | Employee trust, social value, environmental impacts     |
| Business ecosystem collaboration | Partner retention, co-innovation, mutual value creation |

**Source:** Author's synthesis based on Beer (1985), Espejo and Reyes (2011), Pfiffner (2022), and Schwaninger and Scheef (2016).

## 5. An Integrated Model of Viable Growth

The relationship between viable-system design and organizational growth can be described as a circular process. Environmental opportunities stimulate expansion; expansion increases internal and external variety; increasing variety generates pressure to strengthen coordination, resource regulation, intelligence, and identity clarification. The quality of these responses determines whether growth becomes self-reinforcing or self-destructive (Coad, Daunfeldt, Hölzl, Johansson, & Nightingale, 2014, p. 100).

The model assumes that viable growth requires proportionality. Operational capacity cannot expand indefinitely without parallel investment in coordination among units, nor can an organization maintain extensive strategic-planning functions independently of operational experimentation. Each sustainable function must develop proportionately with the others. Similarly, empirical research on small and medium-sized enterprises indicates that the benefits of internationalization-related growth depend on a proportional relationship between innovation capabilities and collaborative capabilities (Fredrich, Gudergan, & Bouncken, 2022, p. 620).

The second conclusion is that managerial capacity does not depend on the number of centralized managers. Recursive structure and autonomy granted to employees increase organizational capacity by transferring decisions to the level possessing the most relevant information. Dashboards and digital analytics may improve visibility, but they should support internal organization rather than replace it (Espinosa & Martinez-Lozada, 2025, p. 7).

The third conclusion is that sustainable organizational growth involves both internal and external sustainability. Internally, units must maintain operational coherence. Externally, the organization must remain aligned with customers, communities, regulators, suppliers, ecosystems, and environmental boundaries. Thus, the value perspective expands the scope of growth beyond the boundaries of the firm and recognizes that an organization cannot remain viable unless it considers its stakeholders and surrounding environment (Stubbs & Cocklin, 2008, p. 112).

**Table 4. Viable System Functions and Their Contributions to Growth**

| VSM function           | Contribution to growth                                | Typical growth-related dysfunction                           | Illustrative indicators                                    |
|------------------------|-------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------|
| System 1: Operations   | Production of goods, services, and customer value     | Expansion without local capacity or accountability           | Unit economics, quality, productivity, customer outcomes   |
| System 2: Coordination | Stabilization of interactions among growing units     | Conflicts, duplication, process misalignment                 | Inter-unit delivery delays, schedule deviations, conflicts |
| System 3: Control      | Resource allocation and synergy realization           | Centralized management and politically influenced allocation | Allocation time, productivity, shared-resource utilization |
| System 3*: Audit       | Testing whether reported performance reflects reality | Hidden risks, indicator manipulation, compliance gaps        | Audit-finding closure, data reliability                    |

|                     |                                                               |                                                           |                                                             |
|---------------------|---------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------|
| System Intelligence | 4: Opportunity identification and adaptation                  | Strategic blindness or disconnected innovation            | Sensing speed, experimentation, innovation conversion       |
| System Policy       | 5: Identity preservation and resolution of strategic tensions | Mission drift, incoherent diversification, value conflict | Strategic coherence, purpose alignment, stakeholder trust   |
| Recursive structure | Replication of viable capabilities across levels              | Central bottlenecks or uncontrolled fragmentation         | Local decisions, autonomy, escalation recurrence            |
| External resonance  | Mobilization of stakeholder and ecosystem resources           | Superficial partnerships or loss of legitimacy            | Partner value, network innovation, retention and legitimacy |

**Source:** Author's synthesis based on Fredrich, Gudergan, and Bouncken (2022) and related literature.

## 6. Growth Stages from a Viable-Systems Perspective

### 6.1. Entrepreneurial Stage and Founder-Centeredness

During the entrepreneurial stage, one individual or a small group often performs most viable-system functions simultaneously. The same person may sell products, coordinate employees, approve expenditures, monitor quality and markets, and define organizational identity. Such concentration can be effective when the organization is small because communication is direct and relational cohesion is strong (Salinas-Navarro, Vilalta-Perdomo, & Michel-Villarrea, 2026, p. 9).

However, founder-dependent viability creates several risks. As environmental and operational variety increases, a single individual cannot keep pace with the workload. Decisions slow down, employees wait for approvals, urgent operational problems replace strategic intelligence, and tacit knowledge becomes difficult to transfer. A 2026 study of an artisan dairy facility in Mexico illustrates how relational coordination and shared identity can support viability at a small scale, where coordination and audit functions are concentrated among a limited number of individuals. The principal growth challenge at this stage is not to impose bureaucracy but to achieve functional differentiation. The organization must identify which decisions can be delegated, establish basic coordination protocols, generate reliable performance information, and protect time for strategic intelligence (Salinas-Navarro, Vilalta-Perdomo, & Michel-Villarrea, 2026).

### 6.2. Functional Growth Stage

As employment and specialization increase, organizations commonly adopt functional departments such as production, finance, marketing, human resources, and information technology. This structure can improve specialized expertise but may reduce customer value because departments optimize their own objectives while no unit assumes full responsibility for the overall service delivered to the customer (Vik, Finnestrand, & Flood, 2022, p. 210).

VSM diagnosis redirects attention from formal functions to primary activities. The organization should identify the customer-oriented transformations through which it fulfills its purpose and give the units responsible for them sufficient authority. Functional specialists can then support several System 1 units without replacing their accountability. System 2 becomes particularly important at this stage because shared data definitions, planning cycles, and workflow rules help overcome organizational silos (Espejo, 2022, p. 1167).

### 6.3. Multi-Unit and Geographical Expansion

Geographical expansion multiplies differences among local environments. Uniform control may achieve brand consistency but can inhibit local adaptation, whereas complete decentralization may weaken the brand and increase compliance risks. Recursive design provides an alternative by allowing

branches or business units to operate as viable systems embedded within the larger organization (Pfiffner, 2022, p. 41).

Each unit should possess operational control and local intelligence while remaining connected to enterprise-level coordination, shared resources, and overall identity. The higher recursive level should intervene primarily when an issue affects the coherence of the broader system, economies of scale, enterprise risk, or strategic identity (Espinosa & Martinez-Lozada, 2025, p. 9).

#### 6.4. Business Ecosystem and Platform Growth

Digital platforms, supply networks, public–private partnerships, and service systems extend growth beyond the organizational ownership boundaries of the firm. A focal organization cannot control every participating actor; therefore, its continued viability depends on shared protocols, incentives, information, trust, and aligned objectives. The concept of consonance within service-system theory is particularly relevant at this stage (Barile & Polese, 2010, p. 26).

Business-ecosystem growth also requires governance mechanisms rather than traditional hierarchical control. The organization must clarify participation rules, data standards, dispute-resolution arrangements, value-distribution mechanisms, and ecosystem identity. Consequently, System 2 and System 5 functions may operate effectively across organizational boundaries (Barile, Saviano, Polese, & Di Nauta, 2018, p. 43).

**Table 5. Viable-System Maturity Across Growth Stages**

| Growth stage                    | Dominant configuration                           | Central viability risk                          | Required transformation                               |
|---------------------------------|--------------------------------------------------|-------------------------------------------------|-------------------------------------------------------|
| Founder-centered organization   | Functions concentrated in one or two individuals | Overload and dependence on specific individuals | Delegation and formalization of essential information |
| Functional organization         | Specialized departments                          | Silo behavior and weak customer responsibility  | Reorientation toward primary transformations          |
| Multi-unit organization         | Departments, regions, or product lines           | Central fragmentation or uncontrolled autonomy  | Governance systems and new resource agreements        |
| Business ecosystem organization | Partners and semi-autonomous actors              | Weak authority and misaligned incentives        | Shared protocols, identity, and relational governance |
| Viable adaptive network         | Recursive units and distributed intelligence     | Slack or excessive structural complexity        | Continuous viability diagnosis and renewal            |

**Source:** Author's synthesis based on Fattoum (2024) and Ambriz, Sánchez-García, and Núñez-Río (2024).

### 7. Real-World Case Studies

#### 7.1. Korean Food-Service System

Yu applied the Viable System Model to organizational transformation in a Korean food-service company. Semi-structured interviews examined the company's objectives, strategy, history, decisions, and operating arrangements. The diagnosis identified autonomous units and the operational, coordination, control, intelligence, and policy functions required to enable the food-service system to respond to turbulent market conditions (Yu, 2023).

The study's principal finding is that transformation and growth cannot be reduced to announcing a strategy or redrawing an organizational chart. Operating units expected to generate growth require appropriate autonomy, while environmental intelligence and policy processes must be connected to

operational redesign. The study does not establish a direct causal effect on revenue growth; rather, it demonstrates how VSM can reveal missing capabilities that constrain strategy implementation (Yu, 2023).

## **7.2. Healthcare Organizations in England and Norway**

Applications of the Viable System Model in healthcare organizations demonstrate that sustainable organizational development depends on collective learning rather than structural reform alone. Practical research conducted in a breast-cancer service within the English National Health Service showed that viable-system interventions supported organizational learning and policy development while maintaining applicability to other healthcare environments (Espinosa, Walker, Grover, & Vachkova, 2023).

Similarly, a viable-system diagnosis applied to an orthopedic surgery department experiencing long waiting lists, weak communication, poor coordination, inadequate information exchange, and insufficient intelligence in policy development involved clinicians, managers, administrators, technical staff, and patients. The participatory process generated an agenda focused on communication structures, organizational deficiencies, and change. It demonstrated the need to redesign organizational structures, improve governance, and strengthen communication. In healthcare, organizational growth may involve increasing service capacity, improving patient flow, expanding access, or using scarce resources more effectively rather than simply maximizing profit. VSM contributes by identifying whether clinical processes, support services, information, and policy remain interconnected as demand increases (Vik, Finnestrand, & Flood, 2022).

## **7.3. Climate Resilience in a Greek Oil Refinery**

Adamides et al. used the Viable System Model and VIPLAN methodology to design an organization capable of providing climate resilience within a major Greek oil refinery. The case treated resilience as an organizational capability rather than as an isolated responsibility within a conventional department. Activities were distributed across different units while being integrated into a viable organization within the larger enterprise. The proposed design combined local autonomy with coordinated enterprise-level oversight and could be replicated across different organizational levels within a multi-business, multi-site organization (Adamides, Katopodis, Mountouris, & Sfetsos, 2023).

The case demonstrates how viable-system principles support growth under conditions of risk, in addition to growth in size. As an organization expands its facilities and interdependencies, it must proportionately expand its ability to anticipate and respond to climate-related risks.

## **7.4. Quality Management in the Mexican Automotive Industry**

A study combining the Viable System Model, Soft Systems Methodology, and lean-management approaches in the Mexican automotive industry introduced virtual dashboards, product records, daily meetings, and conceptual models to improve operational effectiveness, collaboration, and adaptability. The case shows that an increase in production volume or product complexity does not automatically generate better performance when problem solving remains dependent on poorly connected actors.

System 2 communication and rapid System 3 feedback therefore represent essential mechanisms for protecting quality during growth. The diagnosis also revealed limited network integration and excessive dependence on a small number of individuals. Visual management, collaborative systems, and participatory-system models contributed to stronger organizational learning and coordination during quality-improvement initiatives (Chávez, Nava, Escobar, & Matamoros, 2025).

## **7.5. Microenterprises and External Shocks**

A 2024 study proposed a viable-system framework for microenterprises facing exogenous shocks. It integrated entrepreneurial orientation with VSM functions, including autonomy, innovation, market orientation, control, and change management. A microenterprise in the food-service sector in

California was used as a conceptual model for organizing these factors (Ambriz, Sánchez-García, & Núñez-Río, 2024).

This study is particularly relevant to organizational growth in its early stages because microenterprises often possess strong entrepreneurial capacity but limited formal coordination, intelligence, and control. VSM provides a pathway for institutionalizing entrepreneurial capabilities without eliminating flexibility. One of the principal lessons is that a growing microenterprise must transform innovation and autonomy from owner-specific characteristics into repeatable organizational capabilities.

### 7.6. Sustainable Performance in a Medium-Sized Organization

Núñez-Ríos and Sánchez-García developed a framework based on viable-system analysis to examine sustainable performance in a medium-sized organization. Their study combined social-network analysis, partial least squares path modeling, and data from 150 employees to identify organizational relationships requiring reinforcement (Núñez-Ríos & Sánchez-García, 2024).

This research creates a bridge between systemic diagnosis and quantitative organizational analysis. It suggests that sustainable performance emerges from the interaction of operational, coordination, learning, control, and policy factors rather than from isolated performance initiatives. For growth research, the study supports treating organizational and communication structures as measurable factors affecting performance.

### 7.7. Community Development in Colombia

Applications of the Viable System Model to community development demonstrate that growth does not necessarily mean an increase in financial size. In community contexts, growth may mean expanding collective capacity, strengthening self-governance, improving participation, and developing the ability of local actors to coordinate resources and respond to changing circumstances. Espinosa and Martínez-Lozada's work demonstrates how VSM can be applied to community self-governance and how viable structures can support collective adaptation and sustainability (Espinosa & Martínez-Lozada, 2025).

**Table 6. Lessons from the Reviewed Case Studies**

| Case                         | System context                               | Main lesson for growth                                                           |
|------------------------------|----------------------------------------------|----------------------------------------------------------------------------------|
| Korean food services         | Institutional food-service system            | Transformation requires organizational redesign, not merely a strategy statement |
| English breast-cancer unit   | Specialized clinical service                 | Growth in service capacity depends on collective learning                        |
| Norwegian orthopedic surgery | Patient-care pathway                         | Increasing demand magnifies coordination weaknesses                              |
| Greek oil refinery           | Climate-resilience organization              | Multi-site growth requires recursive resilience                                  |
| Mexican automotive quality   | Problem-solving network                      | Communication and coordination protect quality during expansion                  |
| Microenterprise model        | Small food-service enterprise                | Founder capabilities must become organizational capabilities                     |
| Medium-sized organization    | Internal network for sustainable performance | Viability relationships can be measured quantitatively                           |
| New Jirón community          | Community-development network                | Growth may mean expanding collective capacity                                    |

|                             |                                   |                                                                  |
|-----------------------------|-----------------------------------|------------------------------------------------------------------|
| Queso Tenate dairy facility | Short artisanal food-supply chain | Relational cohesion may not be sufficient for large-scale growth |
|-----------------------------|-----------------------------------|------------------------------------------------------------------|

**Source:** Author's synthesis based on Yu (2023), Salinas-Navarro et al. (2026), Espinosa and Martinez-Lozada (2025), and related case studies.

## 8. Analysis of Previous Studies

First, viable-growth diagnosis should begin by identifying the system under investigation. Managers must determine the transformation for which the organization exists, its customers or beneficiaries, relevant operating entities, suppliers, owners, regulators, and constraints. Diagnosing “the company” without specifying its transformation can produce ambiguous conclusions because different recursive levels face different environments and purposes.

Second, the organization should analyze complexity. It must identify its primary activities and determine which activities should be treated as autonomous viable units. These units should be based on genuine transformations or markets rather than merely reproducing the formal organizational structure.

Third, the five viable-system functions should be mapped. Managers should not merely verify whether a department has the appropriate label; they must determine whether the necessary function is actually being performed. The existence of a strategy department does not guarantee the existence of environmental intelligence, and the existence of an audit department does not guarantee independent access to operational reality.

Fourth, communication channels and variety balances should be examined. Decision makers should identify where information is delayed, distorted, duplicated, or unnecessarily escalated. They should also determine whether operating units possess sufficient authority and information to absorb local variety.

Fifth, current complexity should be compared with expected complexity. A viable structure under current activity levels may be unable to support a planned acquisition, geographical expansion, digital platform, or major increase in customers. Growth planning should therefore include a **viability budget** covering coordination, intelligence, leadership development, digital infrastructure, auditing, and cultural integration.

Finally, redesign should be iterative. Viability diagnosis should not end with a fixed reorganization. Managers should conduct experiments, monitor outcomes, review decision rights, and repeat the diagnosis at appropriate organizational levels. The objective is to develop an organizational capacity for self-transformation.

## 9. Measuring Viable Organizational Growth

Financial growth remains important, but it should be interpreted within a broader picture of viability. Revenue, market share, workforce size, and return on invested capital indicate expansion and economic outcomes, but they do not independently reveal whether an organization can coordinate its operations, respond to environmental change, and maintain stakeholder legitimacy (Fredrich, Gudergan, & Bouncken, 2022, p. 630).

Operational measures should address quality, cycle time, capacity utilization, safety, customer outcomes, and unit economics at each level. Coordination measures should include escalation frequency, delivery delays, schedule variation, duplicated work, and conflicts among units. Control measures may include resource-allocation lead time, audit closure, data reliability, and shared-resource utilization (Chávez, Nava, Escobar, & Matamoros, 2025, p. 31).

System 4 measures should address environmental-sensing speed, the number and diversity of experiments, innovation-conversion rates, and the proportion of strategic assumptions tested using external evidence. System 5 measures should examine strategic coherence, employees' understanding of organizational purpose, stakeholder trust, and the consistency of major investment decisions with stated values (Iandolo, Loia, Fulco, & Nespoli, 2021, p. 1991).

A **decision-locality measure** is also highly useful: the proportion of recurring decisions resolved at the lowest appropriate organizational level. Excessive centralization may indicate insufficient autonomy or unclear constraints. Conversely, uncontrolled local decision making may indicate weak coordination or identity. The objective is not to maximize decentralization but to distribute regulation appropriately (Espejo & Reyes, 2011, p. 73).

Resilience indicators should also be included, such as the time required to detect disruption, the time required to restore critical operations, adaptive changes retained after a crisis, and the availability of alternative suppliers, skills, or information channels. These measures indicate whether growth has created adaptive reserves and capabilities or increased dependence on critical resources (Adamides, Katopodis, Mountouris, & Sfetsos, 2023, p. 632).

## 10. Critical Evaluation and Limitations

The Viable Systems Approach and the Viable System Model offer several advantages. They provide an integrated vocabulary for discussing operations, governance, adaptation, and identity within a single framework. Their recursive structure can be applied to organizations of different sizes, while their emphasis on autonomy discourages the assumption that complexity can be controlled exclusively through centralized leadership (Reynolds & Holwell, 2020, p. 90).

Conceptual clarity is nevertheless a limitation. Terms such as System 1, System 3\*, consonance, and recursion may not be immediately understandable to practitioners. Researchers and consultants may also map complex organizations differently depending on how they define organizational purpose and boundaries. Participatory diagnosis and the use of ordinary organizational language can reduce interpretive subjectivity, but they cannot eliminate it completely (Ramírez-Gutiérrez, Cardoso, & Tejada-Padilla, 2021, p. 12).

Another limitation concerns empirical evidence. Many studies are applied research projects or single case studies. They provide rich diagnostic insights but rarely measure revenue growth, productivity, resilience, and stakeholder outcomes over extended periods. The reviewed cases demonstrate practical relevance, but they do not establish that VSM intervention alone caused subsequent performance improvements (Salinas-Navarro, Vilalta-Perdomo, & Michel-Villarrea, 2026, p. 21).

There is also a risk of formal functions without substantive viability. Managers may assume that classifying departments as Systems 1–5 proves that the organization is viable. In practice, a strategic function may lack external information, an audit function may lack independence, and operating units may possess apparent autonomy without genuine decision rights. Viability concerns actual relationships, information flows, and decision-making capabilities rather than boxes on an organizational chart (Vik, Finnestrand, & Flood, 2022, p. 23).

Finally, sustainable growth does not necessarily mean continuous expansion. Executives should treat organizational design as an investment in growth capacity rather than as an administrative cost. Before entering new markets or increasing production, leaders should identify the additional variety that the strategy will create and determine how that variety will be managed (Fredrich, Gudergan, & Bouncken, 2022, p. 633).

Growth plans should therefore specify not only financial resources but also decision rights, coordination protocols, audit mechanisms, intelligence capabilities, and leadership requirements. If an expansion plan doubles the number of customer interaction points while leaving coordination and market-intelligence capabilities unchanged, the strategy contains an implicit and potentially serious viability deficit (Schwaninger & Scheef, 2016, p. 560).

## 11. Conclusion

The Viable Systems Approach and the Viable System Model provide a powerful reinterpretation of organizational growth. They shift attention from how much an organization expands to whether it has developed the organizational and relational capabilities necessary to sustain that expansion.

Growth becomes viable when operational autonomy, coordination, resource control, environmental intelligence, and organizational identity develop simultaneously.

One of the most important mechanisms is autonomy. Organizations cannot expand indefinitely through centralized decision making because growth generates variety beyond what central authority can effectively absorb. They must therefore create autonomous and coherent units capable of responding to local environments while remaining connected to the purpose and policies of the larger system.

The cases reviewed in this article demonstrate that viable-system thinking can be applied across commercial, public, community, healthcare, industrial, energy, and food-service environments. They also reveal recurring weaknesses, including person-dependent intelligence, weak communication, formal autonomy that is not exercised in practice, hidden operational conditions, and growth strategies unsupported by adequate coordination.

The relationship between viable systems and growth is therefore conditional rather than automatic. Viable design does not necessarily produce rapid growth. Instead, it explains how organizations can prevent expansion from weakening resilience, identity, quality, and stakeholder value. Its principal contribution is to provide a theory of **growth accompanied by continued organizational coherence**—a form of growth in which increases in size or reach are accompanied by stronger capabilities for learning, adaptation, self-organization, and responsible coexistence.

The theoretical literature on viable systems also provides fertile ground for future research, particularly concerning viability at the macroeconomic level and global sustainability. Although VSA has been widely applied to individual firms and supply chains, future research should address the scalability of small and medium-sized enterprises (SMEs) and apply VSA-based diagnostics to underrepresented sectors such as agriculture, education, and international trade networks.

The intersection between VSA and global climate-change initiatives represents another important research direction. As organizations seek growth in a resource-constrained world, VSA may provide a scientific and philosophical framework for **circular growth**—growth that continuously renews the social and ecological systems upon which organizational activity depends.

The Viable Systems Approach and the Viable System Model should therefore not be understood merely as theories of organizational survival. They provide an analytical structure for determining whether growth strengthens or weakens organizational viability. Growth that exceeds coordination and intelligence capabilities produces fragility, whereas growth supported by recursive autonomy, effective communication, strategic learning, and coherent identity strengthens resilience and creates long-term value.

The article concludes with the following principal recommendations:

- **Protect operational autonomy while clarifying constraints.** Effective delegation requires clarity of purpose, risk boundaries, and performance expectations. Autonomy should also be supported through access to information, skills, and trust rather than merely through formal declarations that employees are “empowered.”
- **Institutionalize strategic-intelligence processes.** Organizations should continuously examine emerging technologies, customer needs, regulations, competitors, and social expectations. Intelligence must nevertheless remain connected to operational experimentation so that strategy does not become a purely abstract planning exercise.
- **Monitor the balance between the present and the future.** Boards and executives should recognize that an organization dominated by System 3 may become efficient but strategically rigid, whereas an organization dominated by System 4 may generate numerous initiatives without operational discipline. System 5 should preserve an identity-based balance between exploiting current capabilities and exploring future possibilities.

- **Repeat viable-system diagnosis throughout growth.** Viability is not a certificate obtained once and retained permanently. New products, acquisitions, technologies, regulations, and partnerships continuously alter organizational variety and therefore require new levels and channels of communication and new forms of coordination.

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