Israel Innovation Annual Report 2024

The Israeli Institute for Innovation Assessment (INSA)

In collaboration with the

Ono Academic College

הקריה האקדמית אונו

www.insa-innovation.com

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Introduction

1.1 About the Institute[1]

The Israeli Institute for Innovation Assessment (INSA) was established in 2021 to advance innovation in the Israeli economy by systematically and professionally measuring innovation processes within organizations. INSA equips organizations, companies, and businesses with tools to effectively manage innovation processes, leveraging international standards and cutting-edge methodologies.

Founded by Avi Sagi and Michal Ziegelman, INSA combines technical and strategic expertise in innovation. Avi Sagi, the institute's CEO, is an aeronautical and aerospace engineer with deep expertise in open innovation strategy. He also serves on the international committee for the ISO 56001 standard on innovation management. Michal Ziegelman, a physicist, specializes in strategy and innovation in complex environments. She is the founder and CEO of the strategic consulting firm Duality, a lecturer at Lahav Executive Education at Tel Aviv University, and a member of the Israeli Directors Union (IDU).

In 2023, the institute expanded its leadership team with the addition of Professor Gil Avnimelech as a partner to enhance its academic dimensions. Professor Avnimelech is the Director of the Center for Entrepreneurship and Innovation and a lecturer at the Faculty of Business Administration at Ono Academic College. He is recognized as an expert in entrepreneurship, entrepreneurial finance, open innovation, and innovation policy.

INSA's mission is to promote a comprehensive approach to innovation, encompassing all sectors of the economy and embracing diverse types and sources of innovation. It emphasizes the importance of strategic, systematic processes to foster and sustain innovation across industries.

As part of its commitment to strengthening Israel's innovation ecosystem and global standing, INSA collaborates with industry, academia, research institutions, and government partners. The institute actively invites stakeholders who share its vision to join its initiatives and drive innovation in Israel.

For inquiries or to participate in the innovation index, please contact INSA through its website: <INSA – The Israeli Institute for Innovation Assessment>.

1 The information in this report is based on research and data collected and analyzed by the Israeli Innovation Assessment Institute (INSA). It presents summaries, insights, and findings intended to provide general information. However, it does not constitute professional advice or recommendations. Any use of this information, including assessments, interpretations, or decisions made based on its content, is solely the responsibility of the user. INSA assumes no liability for any actions or decisions taken based on this report and will not be held accountable for any damages, losses, or expenses incurred from its use or reliance. We strongly recommend consulting with a qualified expert before taking any actions or making decisions based on the findings presented in this report.

Message from the CEO of the Institute – Avi Sagi

The Israeli Innovation Index presented in this report marks a pivotal milestone, reflecting years of dedicated research in the field of innovation. As a member of the international committee for the ISO 56001 standard on innovation management, I am particularly excited by this moment, as it signifies a significant breakthrough. The development of the standard required over a decade of rigorous effort by innovation experts worldwide, who worked tirelessly to create a unified language and provide organizations with practical tools for managing innovation effectively.

The role of a Chief Innovation Officer (CIO) is undoubtedly one of the most challenging managerial positions, given the high levels of uncertainty and risk inherent in the role. Innovation, by its very nature, is complex and unpredictable. While some may shy away from innovation due to the risks it entails, we all recognize that progress and growth are impossible without it. Managing innovation is both an art and a discipline, requiring a unique blend of creativity, competence, courage, systemic vision, and meticulous attention to detail.

For organizations across the Israeli economy, effective innovation management is not just desirable—it is essential. When approached strategically and systematically, it can deliver significant, long-term value. This comprehensive report is designed to serve as a powerful tool for evaluating, measuring, and managing innovation within your organization.

I want to extend my heartfelt gratitude to my esteemed colleagues, Michal Ziegelman and Professor Gil Avnimelech, for their shared insights, collaborative efforts, and inspiring journey we've undertaken together. I also wish to thank the dedicated team at the institute, the subject matter experts, and the hundreds of organizations and partners within the innovation ecosystem who contributed to making Israel's first Innovation Report a reality.

Message from Michal Ziegelman, Co-Founder

This Report represents a groundbreaking milestone in advancing innovation in Israel. It captures the remarkable achievements of the Israeli economy's innovation efforts during one of the most challenging years in recent history, marked by war and uncertainty. Despite these unprecedented challenges, we have witnessed a dynamic, competitive, and ambitious Israeli economy striving for growth and prosperity.

In a time of heightened uncertainty, rapid change, and exponential technological advancements, innovation is not merely a choice—it is the key to ensuring the survival and growth of both organizations and the economy at large. However, to maintain Israel's position as a global leader, isolated or ad hoc innovation initiatives are insufficient. What is required is a commitment to strategic, systematic, and measurable innovation processes.

This report is the result of extensive, in-depth research into innovation management across 35 industrial sectors in the Israeli economy. It offers expert analyses, insights into emerging innovation trends, and practical tools to help organizations assess and enhance their innovation initiatives. These tools enable organizations to benchmark their efforts against both their own past performance and industry standards. At the national level, the report maps the key characteristics of Israel's innovation ecosystem and outlines critical growth pathways essential to maintaining Israel's status as a global innovation leader.

I would like to express my heartfelt gratitude to my partners, Avi Sagi and Professor Gil Avnimelech, for their dedication and visionary leadership. My thanks also go to

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the institute's talented team, the experts, and the organizations that embraced this vision and contributed to the creation of this important document. I hope the report serves as a valuable resource to foster innovation within your organizations and inspire you to adopt innovation as a way of life, driving both national and business growth.

Message from Prof. Gil Avnimelech, Partner and Senior Academic Advisor

The report you are holding represents the result of dedicated and professional efforts, capturing the intricate reality of innovation management in Israeli organizations in 2024. From my role as an academic advisor, I would like to emphasize the broader vision and national strategy aimed at evolving Israel from a "Startup Nation" into an "Innovation Nation"—and ultimately, a global leader in "Open Innovation."[2]

In an era where Israel is simultaneously confronting unprecedented challenges and experiencing rapid technological advancements, innovation, and especially open innovation, are vital to success. Open innovation empowers the Israeli economy to not only sustain its global competitiveness but also to extend the reach of innovation beyond the high-tech sector, encompassing all industries and organizations.

The shift toward innovative and collaborative thinking is far more than a mechanism for generating short-term economic value. It is a critical pillar for ensuring the long-term competitive advantage of Israel's entrepreneurial ecosystem. This goal has taken on even greater significance in light of the ongoing war and the societal and economic hurdles facing the nation.

Leveraging the most advanced methods for assessing innovation, this report offers measurable tools, actionable insights, and industry benchmarks designed to foster systematic, long-term innovation processes. I am deeply grateful to my partners, Avi Sagi and Michal Ziegelman, for their vision and collaboration, as well as to the institute team, the contributing experts, and the hundreds of organizations that participated in the Innovation Index. Their collective efforts have helped transform this vision into reality. Together, we can fortify Israel's position as a global hub for innovation and open innovation, creating a meaningful and enduring impact across the entire economy.

The Board Team:

Or Manor: Board Member, researcher of technological trends, and certified information systems analyst.

Yorai Gabriel: Entrepreneur, lecturer, and consultant specializing in innovation process operations. A member of Google's global team of product strategy experts and a mentor in Google's acceleration programs both in Israel and worldwide.

Michal Shlomi: Expert in managing organizational processes, fostering an agile culture, shaping strategy, enhancing organizational effectiveness, and providing executive coaching to senior leaders.

We would like to express our sincere gratitude to **Ono Academic College**, a valued partner in the design, marketing, and distribution of the 2024 Innovation Report. This collaboration underscores their recognition of the initiative's significance and their dedication to advancing structured innovation processes within the Israeli economy.

2 Avnimelech, G., & Amit, A. (2024). From startup nation to open innovation nation: The evolution of open innovation activities within the Israeli entrepreneurial ecosystem. Research Policy, 53(9), 105079.

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The Purpose of the Report

The **2024 Innovation Report** published by the institute aims to assess and map the quality of innovation management processes across all sectors of the Israeli economy. This report provides benchmarking at three levels: organizational, sectoral (vertical), and national.

The findings are presented in a visually engaging and accessible format, enabling organizations to compare their performance, learn from others, and gain valuable insights to develop systematic processes for fostering innovation. Each set of findings is accompanied by expert analyses from diverse sectors, offering interpretations, reviews of implications, emerging trends, and professional perspectives. Updates related to the report will be available on the institute's website.

This report is designed for senior executives, innovation managers, information systems managers, organizational decision-makers, business and strategic consultants, and policymakers involved in innovation-related fields in Israel.

The institute warmly invites organizations to participate in the **2025 Innovation Index**. For more information and to register, please visit the institute's website under the section <**Join the Israeli Innovation Index**>.

1.2 The Importance of Evaluating Innovation

In today's dynamic and competitive environment, innovation is essential for business survival and growth. It serves as a powerful engine for achieving strategic goals but requires effective management of organizational change in the face of uncertainty. Poorly managed innovation can lead to failures, wasted resources, and missed opportunities. Conversely, a lack of investment in innovation risks eroding an organization's competitive edge.

Effective innovation management depends on the continuous evaluation of innovation processes, ensuring organizations stay ahead in development and growth. As Professor Peter Drucker aptly stated, *"If you can't measure it, you can't manage it."*

1.3 ISO 56001 Standard

The international standard for innovation management in organizations, ISO 56001, was officially launched in September 2024. This standard provides an advanced approach to managing innovation, focusing not only on outcomes but also on the essential management processes that lead to consistent innovation results.

ISO 56001 marks a significant breakthrough for innovation managers, as it defines the key elements necessary for managing and advancing innovation within organizations.

The Israeli Institute for Innovation Assessment bases its measurement activities on the ISO 56001 standard and is committed to standardizing innovation management processes across Israeli organizations.

1.4 Expanding the Concept of Innovation

Innovation is a key driver of growth and progress across all areas of life. Traditionally, innovation was closely linked to technological advancements and new products. However, in recent years, a broader understanding has emerged, recognizing that innovation extends far beyond technology to encompass a wide range of processes, services, and business models across all sectors of the economy.

The concept of "Expanding Innovation" emphasizes that innovation is not only a differentiating factor but also a tool for enhancing productivity and delivering greater value to customers— even in industries that are not heavily focused on research and development.

Innovation can take many forms, including improvements in business processes, production methods, management techniques, user experiences, and business models. It can manifest as new products and

services or as creative approaches to delivering existing services.

This expanded view acknowledges that every organization, sector, and field has the potential to benefit from innovation. It is not limited to technological advancements but encompasses a holistic approach to creativity and the systematic pursuit of better ways to meet customer needs in an ever-evolving market.

Ultimately, innovation enables organizations to adapt, improve, and create meaningful value in a fast-paced, competitive environment.

Government Activity to Expand the Concept of Innovation[3]

The current report aligns with several strategic initiatives from the Ministry of Economy and Industry in recent years.

Notable efforts include the *Advanced Manufacturing Program in Industry (2018)* and the *Report of the Committee for Economic Advancement of the Trade and Services Sectors (2021)*. These documents emphasized the need to upgrade traditional sectors of the economy to enhance productivity and foster overall growth, highlighting the critical role of innovation and the necessity of tailored government support for these sectors.

Further studies have focused on the business sector as a whole, including a comparative analysis of the adoption of technologies in Israel from an international perspective (Be'ery & Esperanza, 2021) as well as research on *non-technological innovation (Be'ery & Maimon, 2023)*. A comprehensive view on this topic was provided through a joint collaboration with the *Israel Democracy Institute (2023)*, which strategically outlined the importance of expanding the concept of innovation across two key dimensions: governmental action and governmental measurement.

In line with these reports, government efforts—particularly from the Ministry of Economy and Industry—have intensified to promote innovation, with a special emphasis on traditional industries. Key examples of these efforts include:

Financial grants for adopting technologies in industries and small and medium-sized enterprises (SMEs), as outlined in Director General Circulars 4.56 and 4.68.

Advisory frameworks for businesses, including programs such as the Maof Network for SMEs, the Advanced Manufacturing Institute for Industry, and the Resource Efficiency Institute.

A joint initiative by the Ministry of Economy and Industry, other government ministries, and the Joint Distribution Committee (JDC) called *360°*. This initiative expands innovation consulting to service sectors, construction, and agriculture, and includes programs to develop managers in innovation.

Support for "Innovation Ecosystems" designed to strengthen connections between companies offering innovative solutions and traditional industries (e.g., agriculture, construction, healthcare).

R&D and pilot programs led by the Innovation Authority in collaboration with relevant government ministries, aimed at modernizing traditional sectors (e.g., transportation, construction, and more).

Small and Medium-Sized Enterprises (SMEs)

Each year, more than 50,000 new businesses are established in Israel, many introducing new business models, products, or services. However, the Small and Medium Business Agency also recognizes the existence of approximately 700,000 SMEs across the economy. For these businesses—particularly the 13% employing five or more people—innovation is a crucial tool for survival, growth, and development.

3 We would like to express our gratitude to Gilad Be'ery, Director of Research at the Strategy and Policy Planning Department, Ministry of Economy and Industry, and Nir Ben Aharon, Head of the Research, Policy, and International Relations Unit at the Small and Medium Business Agency, Ministry of Economy and Industry, for their valuable assistance in enhancing our understanding of the efforts to expand the concept of innovation in small and medium-sized enterprises, as well as the related government activities.

As businesses progress beyond their initial entrepreneurial phase, they must develop more sophisticated innovation capabilities to maintain a competitive edge. An innovation index enables businesses seeking to implement systematic innovation processes to track and measure their success relative to other companies.

Innovation in the Spirit of the Times

In this challenging year, as Israel grapples with the impact of the "Iron Swords" war and its aftermath, innovation has become more crucial than ever for the Israeli economy. While the ongoing conflict and its uncertainties have caused widespread damage, they also present new opportunities for recovery and growth through innovative processes.

During times of crisis, the ability of organizations to reinvent themselves, develop creative solutions, and adapt to shifting realities is essential for ensuring survival and long-term growth. Innovation serves as the cornerstone of organizational resilience, flexibility, and competitive advantage—qualities that are necessary not only to address immediate challenges but also to drive future progress.

Israel, known globally as the "Startup Nation," has consistently led in technological innovation. Expanding the reach of innovation across all sectors of the economy will help preserve our leadership and lay the foundation for continued growth and prosperity for society as a whole.

1.5 Principles of the Innovation Index and Conceptualization

Israel's Innovation Index is being published for the first time, coinciding with the launch of the ISO56001 standards. The index provides a comprehensive mapping of innovation management across 35 different industries ("verticals") within the Israeli economy and is grounded in the principle of expanding the concept of innovation.

Industries Examined in the Index:

1. Cybersecurity
2. Biotechnology, Pharma, and MedTech
3. Construction and Real Estate
4. Healthcare and Welfare Services
5. Engineering, Manufacturing, and Industrial Products
6. Holding and Maintenance Companies
7. Education and Academia
8. Academic and Industrial Research
9. Electricity and Water
10. Telecommunications
11. Semiconductors, Electronics, Electrical Engineering, and Hardware
12. Public Institutions
13. Data and Information Analysis
14. Retail
15. Automotive and Auto-Tech
16. Food Networks
17. Professional Services (Accountants, Lawyers, Tax Consultants)
18. Business Services
19. Financial Services, FinTech, and Insurance
20. Tourism, Restaurants, and Leisure
21. Aviation and Transport
22. Oil, Gas, Mining, and Chemicals Industry
23. Food and Beverage Industry
24. Cosmetics and Beauty
25. Municipalities and Local Authorities

26. Design and Arts
27. Social
28. Advertising and Marketing Companies
29. Fashion and Textiles
30. Agriculture and Agritech
31. Logistics
32. Press and Media
33. Energy
34. Investments and Acceleration
35. IT and Information Systems

Characteristics of Organizations Participating in the Index

The Innovation Index is designed for organizations with five or more employees (either directly or indirectly) and whose primary activities are based in Israel, either as a parent company or a branch.

Innovation Index Participation Process

Organizations wishing to participate in the index undergo a diagnostic process based on an advanced innovation survey developed by the institute's experts. The survey data is then consolidated into an "Innovation Map," which includes numerous objective parameters (see Appendix C).

An organization can be included in the analysis of up to three industries simultaneously, based on its core business areas. The index includes over 350 organizations across 35 different industries.

To participate, an organization must undergo an innovation interview with a senior representative (such as an Innovation Manager, Strategy Manager, or Executive Management), or alternatively, an external analysis process conducted by the institute's team. The interview consists of 85 questions, organized into 15 main categories across four clusters, examining various aspects of innovation management. Each category represents a key component in the "Innovation Map" and contributes to the organization's innovation score.

Index Outcomes

The data collected and analyzed serves as the foundation for creating an industry-specific innovation map, providing a comprehensive overview of innovation within that industry. This map enables policymakers and entrepreneurs to identify both opportunities and areas in need of improvement, as well as examine gaps in innovation management between different industries.

At the organizational level, the industry-specific innovation map offers a continuous learning process, allowing organizations to objectively assess their innovation management relative to others in the same field. In later stages, it can support management in making informed decisions about resource allocation for innovation initiatives. Additionally, the industry map helps prospective entrepreneurs identify gaps, trends, and business opportunities.

1.6 Methodology and Descriptive Statistics of the Sample

The data gathered from the organizational innovation survey is quantified on a scale from 1 to 5, where 1 indicates "not present in the organization at all" and 5 indicates "present in the organization at a high level." The survey assesses 15 key categories, based on the ISO56001 innovation management standard, with adjustments made to suit the local market context.

These 15 categories are grouped into four main clusters[4]:

Strategy and Management
This cluster includes the innovation vision, strategy, and goals, as well as key performance indicators (KPIs) for innovation and the role of innovation managers.

Organizational Culture
This cluster evaluates how innovation is encouraged and integrated, the internal communication strategies in place, and the overall cross-organizational innovation culture.

Business Processes
This category focuses on the management of innovative projects, the use of various innovation tools (vectors), knowledge and data management, knowledge acquisition, innovation management processes, and the positioning and branding of innovation within the organization.

Capabilities and Resources
This cluster looks at how resources are allocated for innovation, the organizational innovation skills and capabilities, and the broader innovation ecosystem within the organization.

In addition to the information collected through the interview process, supplementary data is gathered from various online sources to create a comprehensive picture of the organization's innovation characteristics. The data is weighted and analyzed by the institute's team, ensuring the reliability and quality of the information using a variety of assessment methods. Factors such as the organization's size, industry, and nature of its activities are also considered.

The collected data is used to create an organizational innovation map that reflects the 15 measured categories, with each category showing its respective score. In addition to the innovation map, an overall organizational innovation score is calculated by averaging the scores across all 15 categories, with each category given equal weight.

The 15 categories examined are:

1. **Innovation Vision, Strategy, and Goals**
   Examines the organization's innovation vision, the strategy for its implementation, the setting of measurable objectives and specific goals, including budget allocation and management commitment.
2. **Encouraging and Integrating Innovation**
   Focuses on processes that encourage creativity, ideation, and employee motivation to foster innovation.
3. **Innovation in Project Management**
   Looks at how innovation is integrated and managed within projects, including the prioritization and oversight of innovation at the project level.
4. **Allocation of Resources for Innovation**
   Assesses the allocation of budgets, personnel, and both physical and digital resources to support innovation initiatives.
5. **Internal Communication for Innovation**
   Examines internal communication methods aimed at disseminating innovation-related messages throughout the organization.
6. **Innovation KPIs (Key Performance Indicators)**
   Involves defining clear metrics for innovation projects and processes, and using customized measurement tools to track progress.
7. **Organizational Innovation Culture**
   Evaluates the quality of the relationship between employees and management, and the overall innovation atmosphere within the organization.

4 This clustering aims to offer a broad perspective and should not be regarded as a deterministic classification.

8. **Innovation Managers**
   Reviews the definition, appointment, and distribution of responsibilities for individuals managing innovation within the organization.
9. **Variety of Innovation Tools (Innovation Vectors)**
   Assesses the identification and implementation of various innovation types (e.g., disruptive, open, internal, external) and tools.
10. **Knowledge and Data Management**
    Looks at how organizational knowledge is managed and preserved, along with the processes for collecting and analyzing data.
11. **Organizational Innovation Skills and Capabilities**
    Evaluates the organization's ability to handle innovation processes and manage uncertainty.
12. **Knowledge Acquisition**
    Focuses on learning processes, employee enrichment, training, and knowledge retention within the organization.
13. **Management of Innovation Processes**
    Examines how the organization manages processes aimed at advancing its innovation strategy.
14. **Innovation Ecosystem**
    Looks at the organization's interactions with external entities that support the advancement of innovation.
15. **Innovation Positioning and Branding**
    Assesses processes aimed at creating and maintaining an innovation-oriented organizational identity.

Chapter 2
Index Outputs

2.1 Definitions of Innovation

Innovation is a multifaceted concept, encompassing a variety of dimensions that influence how organizations generate and implement new ideas to foster growth and gain a competitive advantage. Given the numerous definitions and types of innovation, its use in industry can often be inconsistent. Therefore, in this document, we have chosen to analyze and present innovation through three key dimensions, which are widely accepted in the leading academic literature. These definitions are supplemented by relevant national-level innovation graphs.

Dimension 1: Applications of Innovation[5]

1. **Product Innovation:** The introduction of a new or significantly improved product or service in terms of its characteristics or intended uses (Abernathy & Utterback, 1978; OECD/Eurostat, 2018).

   Sources within Product Innovation:

   Architectural Innovation: The application of existing technologies in new ways to significantly improve existing products and services, thereby creating new market opportunities (Henderson & Clark, 1990).

   Component Innovation: Focuses on improving or redesigning components or modules of a product without changing the overall architecture of the system (Henderson & Clark, 1990).

2. **Process Innovation: The implementation of a new or significantly improved production method, or innovation** in organizational processes that enhances the efficiency of the organization (Abernathy & Utterback, 1978; Davenport, 1993).

   Supply Chain Innovation: Improvements and new approaches in procurement, logistics, manufacturing, and distribution to improve organizational efficiency and effectiveness (Christopher, 2016).

3. **Business Model Innovation:** Creating new ways to capture value within a business framework (Teece, 2010).

   Organizational and Cultural Innovation: The application of new organizational methods or an innovative culture in the business activities of the company, within the organization, workplace, or external relationships of the company, which stimulate innovation (Hamel, 2006).

4. **Brand Innovation:** The process of developing and implementing creative ideas and changes in branding to add value and differentiation to the brand in the market. This innovation includes changes in products, design, and technologies, as well as the development of unique marketing strategies (Keller, 2013).

   Marketing Innovation: The development of new marketing methods, including significant changes in product design, packaging, product placement, promotion, or pricing (Kotler & Keller, 2013).

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5 Abernathy, W. J., & Utterback, J. M. (1978). "Patterns of industrial innovation." Technology Review, 80(7), 40-47.
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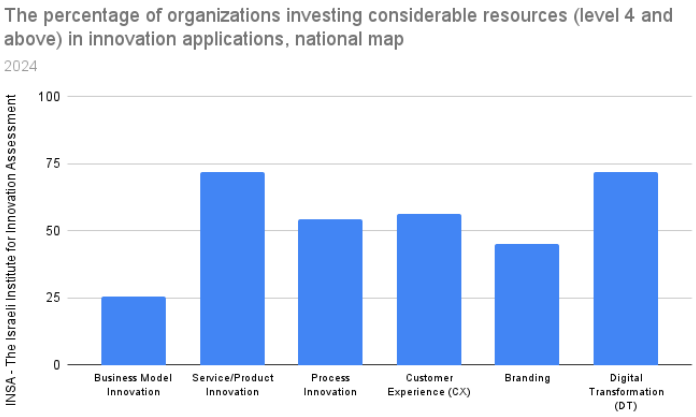
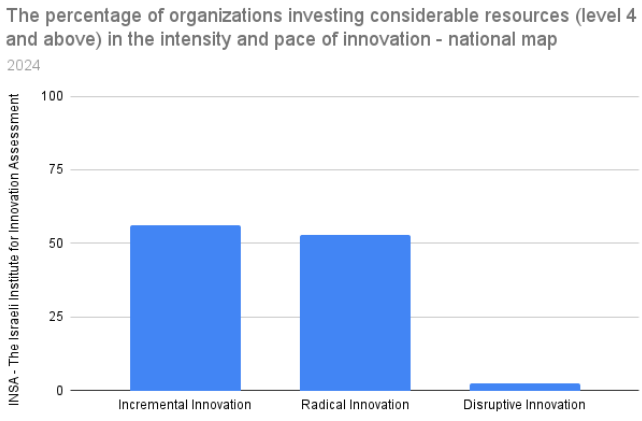
Verhoef, P. C., Lemon, K. N., Parasuraman, A., Roggeveen, A., Tsiros, M., & Schlesinger, L. A. (2009). "Customers experience creation: Determinants, dynamics and management strategies." Journal of Retailing, 85(1), 31-41.
Khosla, S., & Ramirez, R. (2016). The Essentials of Digital Transformation. Harvard Business Review.

5. **Customer Experience Innovation:** Implementing improvements in the overall customer journey and their interaction with the company's products or services (Verhoef et al., 2009).
6. **Digital Transformation Innovation:** The process of integrating digital technologies across all areas of the business to improve performance, create new processes, and offer added value to customers (Khosla & Ramirez, 2016).



Dimension 2: Scope and Pace of Innovation[6]

1. **Incremental Innovation:** Small and continuous improvements in existing product lines, services, or processes of the organization (Benner & Tushman, 2003).
2. **Radical Innovation:** Fundamental changes in existing product lines, services, or processes that result in significant improvements and may create new market opportunities (O'Connor & Ayers, 2005).
3. **Disruptive Innovation:** Processes whose outcome is new product lines, new markets, and new value networks, which eventually disrupt existing markets and products. Disruptive innovation often displaces market leaders and replaces existing alliances (Christensen, 1997).



6 Benner, M. J., & Tushman, M. L. (2003). "Exploitation, Exploration, and Process Management: The Productivity Dilemma Revisited." Academy of Management Review, 28(2), 238-256.
O'Connor, G. C., & Ayers, A. D. (2005). "Building a Radical Innovation Capability." Research-Technology Management, 48(1), 23-31.
Christensen, C. M. (1997). The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail. Harvard Business Review Press.

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Dimension 3: Sources and Directions of Innovation[7]

1. **Internal Innovation:** Innovation that originates from the organization's capabilities and resources, directed within the organization and carried out without external collaboration.
2. **Open Innovation:** Innovation in which the organization makes use of internal and external ideas, knowledge, capabilities, and resources, along with internal and external marketing and distribution channels (Chesbrough, 2003).

   Sources within Open Innovation:

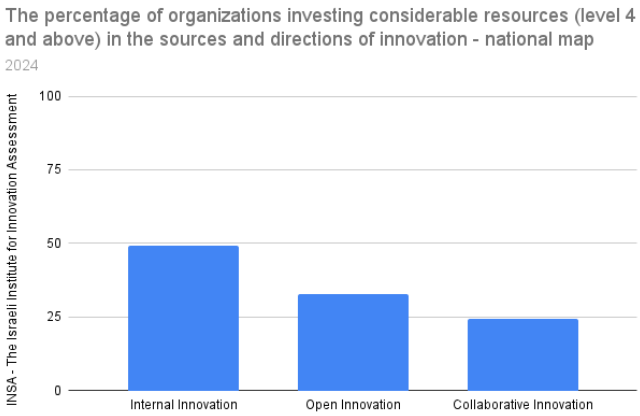
   User/Supplier/Channel Innovation: Innovation developed by end users/customers/suppliers/channels rather than the manufacturer (von Hippel, 2005).

   Collaborative/Ecosystem Innovation: Innovation developed through partnerships and collaborations between multiple organizations or stakeholders (Adner, 2006; Adner & Kapoor, 2010).

   Directions within Open Innovation (One-way):

   Inbound Open Innovation (One-way): Focuses on leveraging external ideas, knowledge, and technologies to promote internal innovation within the organization (West & Bogers, 2014).

   Outbound Open Innovation (One-way): Focuses on commercializing innovations developed within the organization through external partnerships or licensing (West & Bogers, 2014).
3. **Collaborative (Two-way Open Innovation):** Promoting innovation through collaboration, utilizing internal and external ideas, knowledge, technology, capabilities, resources, and processes (West & Bogers, 2014).



7 Chesbrough, H. (2003). "Open Innovation: The New Imperative for Creating and Profiting from Technology." Harvard Business Review Press.
von Hippel, E. (2005). "Democratizing Innovation." MIT Press.
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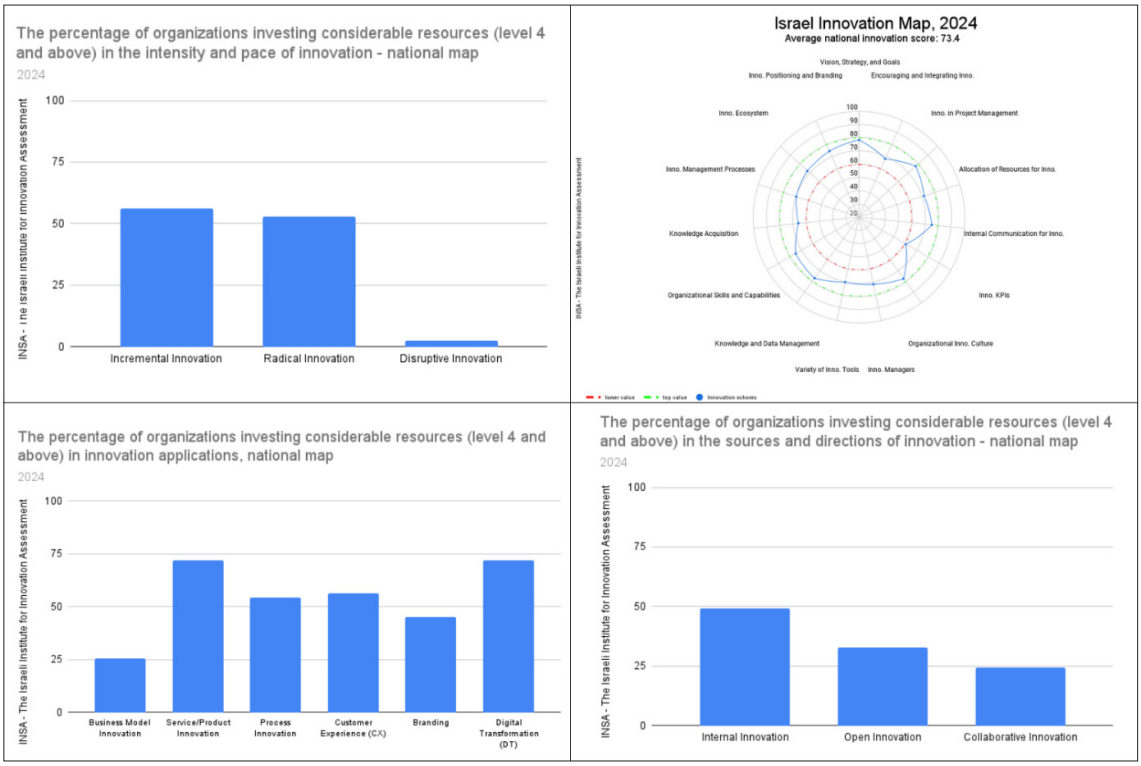
2.2 The National Innovation Map



Analysis of the National Innovation Map and Dimensions of National Innovation

The national innovation map provides an overview of the key innovation characteristics across all organizations participating in the index. Despite notable differences in industries, organizational size, core business areas, and other parameters, the principles underlying innovation management remain consistent. The innovation index, therefore, collects cross-sectional data from various elements and analyzes them based on shared guiding principles.

An analysis of the national innovation map reveals several key categories that highlight both the strengths and weaknesses of participating organizations.

Key Strengths:

Vision, Strategy, and Objectives

Many managers recognize the importance of establishing a clear vision for innovation and integrating it into their overall organizational strategy. There is a strong awareness of the need to develop dedicated strategies for innovation activities and define measurable goals and objectives. However, the implementation of these visions and strategies often poses challenges due to the inherent uncertainty and risks associated with innovation.

Organizational Innovation Culture

A significant number of organizations report that their organizational culture fosters innovation and entrepreneurship, aligning with both local and national cultural values. Organizations with such cultures tend to achieve higher success rates in innovation processes and demonstrate greater resilience in the face of challenges.

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Knowledge and Data Management

Organizations widely recognize the importance of knowledge collection and management processes as a foundation for growth. These processes often serve as a basis for developing innovation projects. However, in some cases, the information collected is not readily accessible to employees, limiting its effectiveness. Broader—but carefully managed—access to information within organizations could inspire new ideas and initiatives.

These strengths indicate that many Israeli organizations have already internalized the critical role of managing and promoting innovation in their activities.

Additional Strengths

Innovation in Project Management

Many organizations excel in integrating innovation into their project management practices. This strength is reflected in their allocation of sufficient resources, the development of tools and methodologies to advance innovation, and the continuous maintenance of innovative activities as part of their overall operations.

Organizational Innovation Skills and Capabilities

Organizations demonstrate strong innovation capabilities in responding to both internal and external changes. Those that invest in advancing innovation skills are better equipped to navigate uncertainty and high-risk situations, enhancing their resilience during crises.

Internal Communication

Managers understand the importance of engaging employees in innovation activities. Organizations employ a variety of methods to foster employee involvement, including regular updates via internal and external communication channels, workshops, direct two-way communication with senior management, and open-door policies. These efforts ensure employees feel informed and involved, strengthening the organization's innovation efforts.

Key Weaknesses

Innovation Key Performance Indicators (KPIs)

Defining and effectively utilizing structured KPIs for organizational innovation remains a significant challenge across sectors. KPIs are essential tools for managing and monitoring innovation activities. However, due to the inherent uncertainty and high risk associated with innovation—often reflected in relatively low return on investment (ROI) in the short-term—it is difficult to establish these metrics in advance. A common mistake is treating innovation projects as if they were nominal-risk, short-term initiatives, leading to premature declarations of failure when results are not immediately apparent. This flawed approach fosters a negative perception of innovation and, in some cases, discourages further initiatives.

Another factor complicating the use of KPIs is the short tenure of senior management within organizations. When executives serve shorter terms than the average duration of innovation projects, they may be less inclined to undertake high-risk, uncertain innovation activities.

Innovation Managers

In many organizations, the role of the innovation manager is unstable and poorly defined. Often, it is treated as an additional or secondary responsibility, leading to periods when the position is vacant. Even in organizations where the role is established, innovation managers frequently transition to new roles before the completion of long-term projects, undermining continuity and success in innovation processes.

Another challenge is the lack of clarity regarding authority and role distribution. Innovation managers are often burdened with additional tasks, reflecting a poor understanding of the role's strategic importance. Furthermore, the scope of work for innovation managers is frequently narrow, focusing on specific areas such as startup collaborations, technological projects, production processes, external ecosystems, corporate accelerators, or strategy.

By its nature, the role of an innovation manager is multifaceted and should adapt to the organization's activities. For smaller organizations, innovation managers should maintain a broad focus, driving innovation across multiple areas. In larger organizations—particularly those with over 3,000 employees—a clear division of roles is necessary, with specialized leaders overseeing sub-activities while the innovation manager coordinates all innovation efforts across the organization.

Encouraging and Embedding Innovation

In many organizations, innovation is incorrectly perceived as a spontaneous activity, with employees expected to innovate as part of their routine work. Promoting innovation, however, requires a strategic approach, structured methodologies, and dedicated managerial effort.

Many organizations lack a systematic framework for encouraging, collecting, evaluating, and implementing employee ideas. Human capital—the most critical resource—often operates within narrowly defined roles, leaving other valuable skills untapped. Smaller organizations, in particular, fail to leverage employees' diverse capabilities to drive innovation.

Encouraging Creative Thinking

Few organizations actively promote creative thinking among employees. Structured methods, such as ideation workshops or creative thinking exercises, are rarely employed. Although some organizations allocate a budget for implementing successful employee ideas, such efforts are often limited in scope and execution.

Knowledge Acquisition

While many organizations recognize the importance of acquiring knowledge from diverse sources, integrating external ideas remains a significant challenge. The "Not Invented Here" syndrome—a reluctance to adopt external knowledge or ideas—limits organizations' ability to capitalize on new insights and collaborations.

These weaknesses reveal a gap between organizations' recognition of innovation's importance and their ability to embed, encourage, and operationalize it effectively. Addressing these issues requires structural improvements, clearer role definitions, and the adoption of systematic innovation methodologies.

Sources and Strengths of Innovation

Internal Organizational Innovation

Approximately half of organizations allocate resources and effectively manage internal innovation processes. These efforts encompass workshops, lectures, structured programs and systems for idea generation and development, and dedicated events such as innovation competitions, hackathons, innovation challenges, and challenges aimed at solving existing problems or generating new projects. Additional initiatives include acceleration programs and entrepreneurial initiatives. In contrast, smaller organizations often take a more spontaneous and informal approach, adapting innovation activities to their specific needs and operational context.

Open Innovation

Around 35% of organizations engage in well-developed open innovation practices. These include integrating external knowledge and expertise, building diverse collaborations, partnering with startups at different maturity stages, and investing in the development and maintenance of innovation ecosystems.

Collaborative Innovation

Only about 25% of organizations actively promote a collaborative innovation model. This approach emphasizes both internal and external cooperation, enabling integrated learning, shared resource utilization, exposure to mutual assets, and creating external value through open-source methodologies. Collaborative innovation can be a powerful tool for organizations seeking to establish themselves as leaders in their respective fields. Developing a shared platform (as a resource or focal point for innovation) and defining an appropriate collaborative architecture (the interface for cooperation) can further solidify an organization's position within a business ecosystem.

Incremental Innovation

Approximately 55% of organizations prioritize incremental innovation, focusing on improving and optimizing existing products and services. This type of innovation is relatively straightforward to implement as it addresses immediate needs, such as resolving product issues, enhancing performance, and adapting products to customer demands. Organizations that do not emphasize incremental innovation often concentrate on new products, potentially overlooking necessary improvements to existing offerings.

Radical Innovation

Roughly half of the organizations report a substantial investment in radical innovation, which involves developing entirely new products. Conversely, the other half report minimal or no engagement in new product development, choosing instead to focus on improving their existing products and services.

Disruptive Innovation

Disruptive innovation remains relatively rare due to its high level of uncertainty and significantly greater risk compared to other innovation strategies. Only about 2% of organizations report developing products with the potential to disrupt markets. These organizations typically focus on niche products targeting specific market segments, often without the explicit intention of transforming entire industries. Notably, market-disruptive strategies require substantial resources and carry a very low probability of success.

Dominant Applications of Innovation

Digital Transformation and Product/Service Innovation

Digital transformation and product/service innovation are the most dominant applications of innovation within organizations. These processes are essential for maintaining competitiveness in an evolving market, with the majority of organizations actively advancing them to ensure relevance and market positioning.

Process Innovation

Over half of organizations manage advanced process innovation initiatives. These processes often require substantial resources, systemic changes, and are frequently accompanied by complementary innovations in products and services.

Brand Innovation and Customer Experience

Nearly half of organizations allocate significant resources to enhance their brand perception and improve customer experience. Managers increasingly recognize that visibility and branding can sometimes outweigh even the innovation embedded in a product. Customer experience, as a critical component of a brand's market perception, has become a central focus in many innovation strategies.

Business Model Innovation

Approximately one-quarter of organizations engage in business model innovation. This type of innovation often has a disruptive character, making it less common, particularly among conservative organizations. However, market pressures or unique opportunities occasionally necessitate this activity, requiring significant effort and resources to implement effectively. Managers with an entrepreneurial mindset often view business model innovation as a key driver of organizational growth, integrating it as part of their strategic approach. Innovation managers, by virtue of their roles, are instrumental in guiding and executing these transformative processes.

For additional statistical analyses and economy-wide comparisons, visit the link: <**Reports and Publications**>.

Summary

The national innovation map and the associated graphs illustrate both the strengths and potential of organizations in the Israeli market, as well as key areas for improvement. While the data highlights opportunities for collaboration among industry leaders, it also underscores the need for government programs to amplify the impact of innovation efforts.

To successfully address emerging challenges and foster growth in a rapidly changing market, organizations must adopt structured methodologies, cultivate a supportive organizational culture, and ensure adequate resource allocation for innovation processes.

2.3 Industry Maps Analysis

This section provides detailed analyses of 23 industries where data quality met the criteria outlined in the methodology (see Appendix C). For each industry, four graphs are included: the innovation map and three supporting graphs.

The **innovation map** depicts the average values for each industry in blue, with the national average represented by a dashed red line. The accompanying graphs analyze different types of innovation and compare each industry's performance to the national average (plotted along the horizontal axis).

To account for variability across industries, the scale of the graphs is adjusted individually. This adjustment accommodates extreme values (maximum and minimum) that differ significantly between industries. The maximum and minimum values for each industry are displayed at the bottom of each column, providing a clear reference for interpretation.

A comprehensive list of industries, along with their extreme values and the corresponding standard deviations for each type of innovation, is available in **Appendix F**. This additional detail offers further insight into the unique characteristics and variability of innovation across different sectors.

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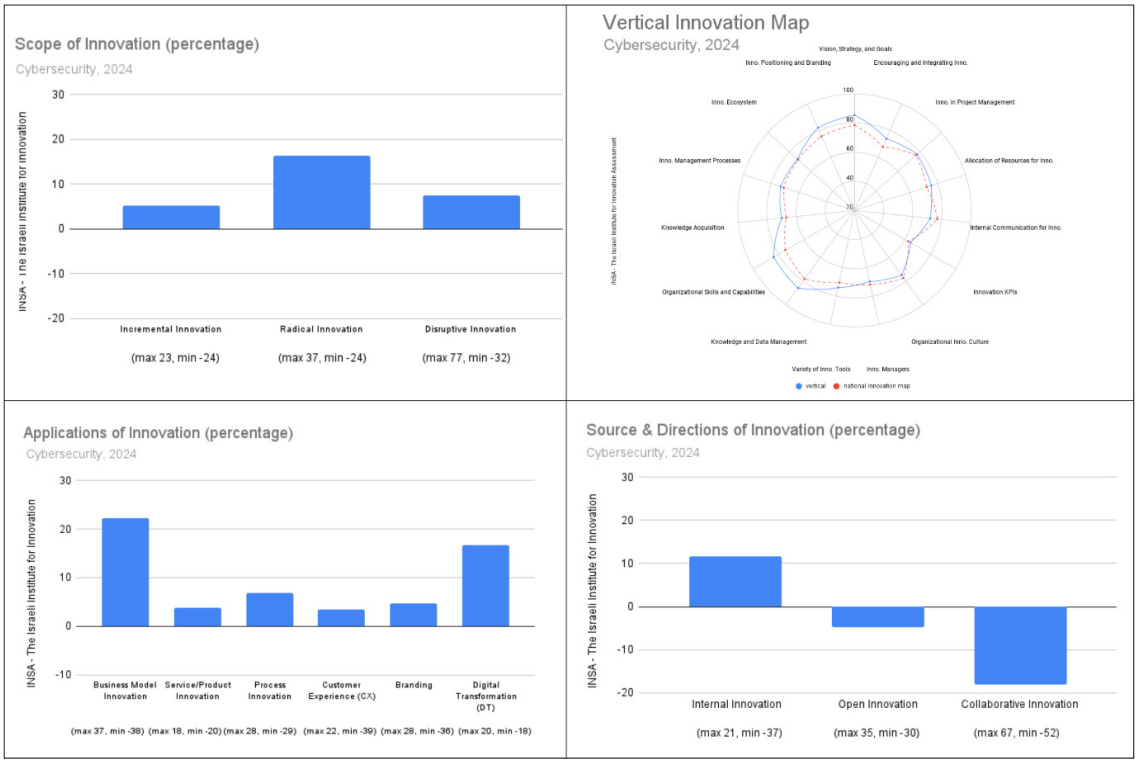
Cybersecurity, Data, and Information Analysis



Key Characteristics

The cybersecurity industry exhibits several key strengths, including knowledge and data management, organizational innovation skills and capabilities, and the clear definition of vision, strategy, and innovation goals. These strengths stem from the complexity of cybersecurity activities, the availability of a highly skilled workforce, and the industry's need to maintain a competitive edge in a rapidly evolving landscape.

However, there are areas that show only moderate development, such as defining performance metrics, appointing organizational innovation officers, and fostering effective internal communication.

The industry demonstrates notable strengths in digital transformation, business model innovation, and radical innovation, with some capability in disruptive innovation. These attributes suggest that the sector leans toward "developmental-executive" characteristics, prioritizing product development over methodological approaches. This trend may be influenced by the prevalence of small, young companies that channel most of their resources into product innovation rather than establishing robust management processes, impacting the overall stability of the field. Nonetheless, the industry is poised to lead in terms of expected investment in innovation over the next two years.

Interestingly, the cybersecurity sector shows relative weakness in collaborative and open innovation, lagging behind the national average. This gap could reflect an overestimation of internal capabilities, as organizations may prioritize self-reliance over external collaboration.

Two areas where the industry excels significantly above the national average are business model innovation and digital transformation. These strengths highlight the industry's ability to respond to significant transformations and its high adaptability to ongoing changes in the market.

Expert Opinion – Cybersecurity, Data, and Information Analysis / Yuval Segev[8]

The findings from the 2024 Innovation Index Report for Israel, conducted by the Israeli National Innovation Assessment Institute (INSA), highlight the significant investment in innovation within Israel's cybersecurity sector. This investment is most evident in disruptive and radical innovation, with levels consistently exceeding the national average. Across almost all dimensions examined in the vertical innovation map, the sector demonstrates above-average performance, with the notable exception of "internal organizational communication." For instance, business model innovation and digital transformation stand out, with investment levels approximately 25% and 15% above the national average, respectively.

To better contextualize these data points, it is important to recognize the two primary layers within the cybersecurity field:

1. Companies developing cybersecurity products and services as their core business
2. Organizations implementing information security processes to protect their operations

Companies Developing Cybersecurity Products and Services

Israel is a global leader in this category, with its cybersecurity companies consistently at the forefront of technological innovation. These companies develop cutting-edge products and services tailored to the global market. According to the IVC report for the first half of 2024, investments in cybersecurity totaled over $2.4 billion, with $1.56 billion originating from seven "mega-deals" involving companies like Wiz, Island, Semperis, Cyera, Coronet, Axonius, and Claroty. These mega-deals accounted for 81% of the total capital invested, reflecting significant trust in the maturity and scalability of Israeli cybersecurity firms, as the sector transitions from startups to scaleups.

Unlike other industries such as automotive, FinTech, FoodTech, and IoT, which have experienced declines in investment following the economic downturn of 2022, cybersecurity has continued to thrive. This consistent growth highlights Israel's resilience and leadership in cybersecurity innovation.

Key statistics further underscore the sector's strength:

- In 2023, the total value of cybersecurity exits in Israel reached **$7.1 billion**, a 65% increase compared to 2022 (*Calcalistech*, *IVC-LeumiTech Tech Review, 2023*).
- In the first half of 2024, Israeli cybersecurity companies raised **$2.9 billion**, surpassing total investments in 2023 (*Calcalistech*, *IVC-LeumiTech Tech Review, 2023*).
- Israel ranks **second globally** in cybersecurity fundraising, just after the United States (*Calcalistech*, *IVC-LeumiTech Tech Review, 2023*).

Organizations Implementing Information Security Processes

This category includes entities that are not primarily focused on cybersecurity but must adopt innovative security measures to protect their operations. While essential, innovation in this area often faces challenges due to budget constraints and manpower shortages. Additionally, since information security processes may not directly contribute to revenue generation, organizations often deprioritize these initiatives, leading to delays in adoption.

These barriers are evident in the innovation map, where categories such as "Encouraging and Implementing Innovation" and "Allocating Resources for Innovation" show scores slightly above the national average but lack significant distinction.

8 Yuval Segev, Vice President of Cybersecurity at Aidoc, Chair of the Cybersecurity Forum at the Directors' Association, and former Head of the Advanced Technologies Division at the National Cyber Directorate.

Adopting Cybersecurity Innovation in Organizations

Chief Information Security Officers (CISOs) can leverage Israel's robust cybersecurity ecosystem by adopting innovative local solutions to bolster organizational security and foster stronger connections with business stakeholders. Examples of impactful solutions include:

Shortening Sales Cycles Through Security Solutions: Cybersecurity managers can significantly reduce sales cycles by integrating innovative solutions, such as those provided by Vendict. These tools streamline the security verification and approval processes, leading to faster deal closures and enhancing the organization's reputation as a cybersecurity leader among potential clients and partners.

Crisis Management with Decision-Support Tools: Advanced decision-support tools, like those offered by Cytactic, assist cybersecurity managers in making informed decisions during crises. By analyzing trends and providing real-time data, these tools help organizations craft effective responses to critical situations, such as determining whether to pay a ransom, preparing media communications, or addressing specific attack groups.

Efficient Risk Management Using AI: AI-powered technologies for managing supply chain cybersecurity risks, such as those developed by Rescana, enable organizations to address vulnerabilities more effectively. These tools utilize intelligent bots to provide real-time information on suppliers, assess potential risks, and recommend appropriate actions, improving the efficiency of risk management processes.

Summary

Israel remains a global leader in cybersecurity innovation, continually driving technological advancements that strengthen the local economy and support the global market. By leveraging the expertise, knowledge, and capabilities of its vibrant cybersecurity ecosystem, Israel has the potential to enhance not only organizational resilience but also the broader economy's innovation and profitability. Establishing incubators, conducting proof-of-concept (POC) trials with innovative startups, and fostering collaborations with local cybersecurity entrepreneurs will further solidify the ecosystem's growth, creating a mutually enriching environment for all stakeholders.

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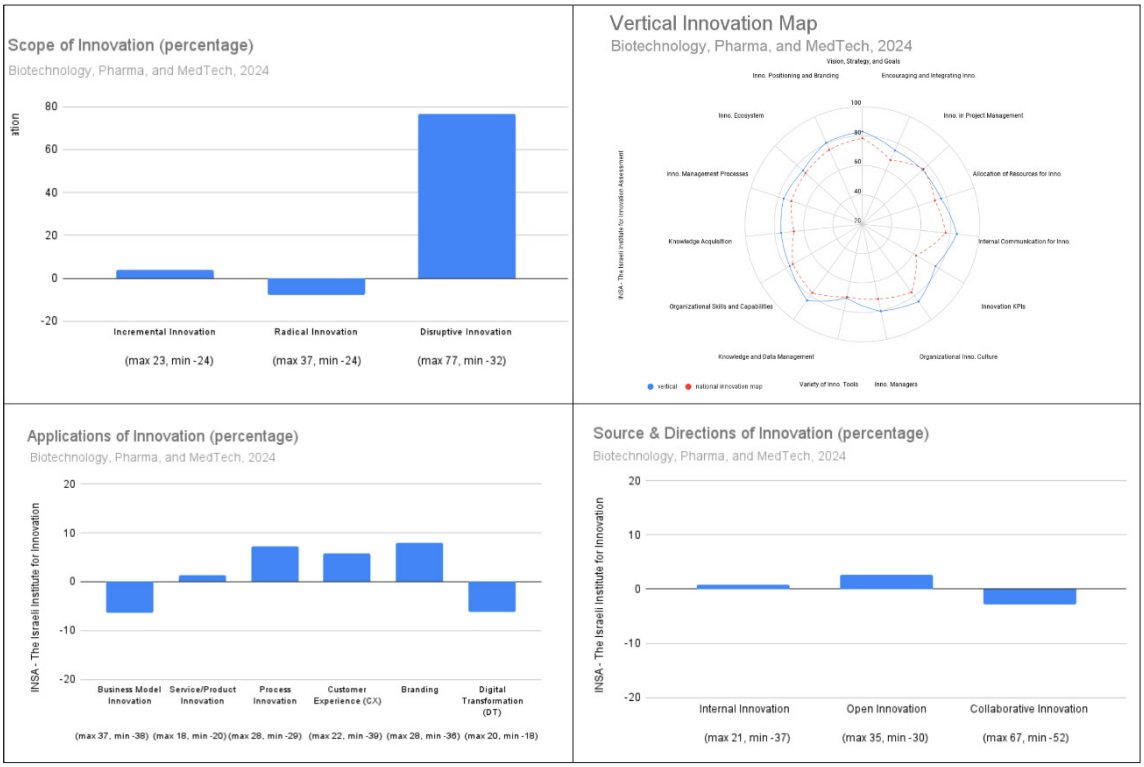
Biotechnology, Pharma, and MedTech



Key Characteristics

The innovation map scores for biotechnology, pharma, and medtech reveal a relatively stable distribution across organizations, with small variations between them. Notably, thirteen out of fifteen categories on the innovation map indicate a performance advantage over the national average. The most significant advantage is observed in key performance indicators (KPIs), reflecting the regulatory nature and relatively conservative approach of organizations in this industry.

Key strengths in the sector include knowledge and data management, organizational innovation culture, internal communication, and external knowledge acquisition. However, the industry displays relatively average performance in categories such as innovation vectors, resource allocation for innovation, innovation in project management, encouragement of innovation adoption, and innovation ecosystem development.

These results suggest that the sector primarily relies on internal knowledge, capabilities, and processes, as well as external knowledge sources. However, the approach to external knowledge is predominantly one-directional open innovation, rather than collaborative innovation. This limitation is particularly evident in areas such as innovation vectors, the innovation ecosystem (measured by the quantity and diversity of external connections), and the encouragement of external innovation adoption.

Connection to Market Trends

The biotechnology, pharma, and medtech sectors are characterized by continuous innovation, driven by rapid technological advancements and evolving scientific developments. Current market trends highlight growing demand for personalized health solutions, advanced medical technologies, and the use of artificial intelligence for analyzing medical data.

To align with these trends, the report emphasizes the need to strengthen collaborations within the broader innovation ecosystem. This includes enhancing partnerships with research institutions, biotechnology companies, pharma organizations, and service providers such as CROs (Contract Research Organizations) and CMOs (Contract Manufacturing Organizations). Greater collaboration would enable more robust collaborative innovation and expand beyond the current focus on one-directional business relationships. Strengthening these processes could also serve as a catalyst for advancing internal organizational innovation.

A standout finding is the sector's strong reliance on disruptive innovation—the highest among all sectors. This reflects the industry's characteristic long, resource-intensive processes and its focus on market-disrupting products. However, the sector's conservative nature, strict regulatory environment, and collaborative innovation limitations represent significant challenges.

Two key areas of weakness include business model innovation and digital transformation, which are hindered by the sector's structural and regulatory constraints. The industry's connections with bureaucratic institutions, such as hospitals, health funds, and insurance companies, further exacerbate these challenges. Additionally, as a primarily B2B-focused sector, digital transformation is often deprioritized and not perceived as critical to success.

Despite these challenges, three innovation applications stand out as moderately strong:

1. **Process innovation** – While slightly underperforming relative to expectations, this reflects the sector's operational and production intensity.
2. **Branding innovation** – Investment in branding suggests a growing recognition of the importance of sector visibility and reputation.
3. **Customer experience innovation** – The increasing focus on customer experience indicates a positive trend toward adopting a **service-oriented mindset** and improving customer focus.

Expert Opinion – Biotechnology, Pharma, and MedTech / Tal Levi and Nir Kantor[9]

The life sciences sector, encompassing biotechnology, pharma, and medtech, stands out for its high level of innovation, driven by the ever-growing demands of the medical field. In both pharma and medtech, leading industrial companies in Israel and abroad engage in extensive activity. This dynamic is reflected in the sector's superior performance across all innovation categories assessed in this report.

Disruptive Innovation and Ecosystem Challenges

The life sciences industry, with its mission to address critical health challenges through innovative solutions, is unsurprisingly dominated by disruptive innovation. This trend is more pronounced here than in other sectors of the economy. However, a key weakness lies in the sector's innovation ecosystem. Unlike other domains of Israeli high-tech, such as cybersecurity, which benefit from deep integration with the defense establishment (e.g., Unit 8200), the life sciences lack a similarly structured and supportive ecosystem that fosters early-stage collaboration for entrepreneurs.

Biotechnology: Unrealized Potential

Biotechnology, in particular, has yet to fully realize its potential. Several structural market failures hinder its progress, necessitating targeted government intervention to transform this subsector into a leading driver of industrial growth and employment in Israel.

9 Nir Kantor is the Director of the Chemistry, Pharmaceuticals, and Environmental Quality Association at the Manufacturers Association of Israel; Tal Levi is the CEO of Protalix Ltd. and Chair of the Biopharma Forum at the Manufacturers Association of Israel.

Barriers to Investment in Biotechnology

The drug development process is characterized by economic and structural challenges that discourage investment:

1. **Technological and economic hurdles**: High development costs, coupled with the substantial expense of failed projects.
2. **Risk**: Significant variance in expected returns and lengthy timeframes for ROI.
3. **Lack of local infrastructure**: Deficiencies in facilities capable of producing materials for clinical stages.
4. **Workforce gaps**: A shortage of specialized professional and managerial expertise.

These barriers have led to underinvestment in biotechnology R&D, preventing many innovations from evolving into local industrial ventures. The result is an exceptionally low number of biotechnology companies transitioning to fully-fledged industrial firms.

Technology Leakage: A Growing Concern

In the past decade, Israeli biotechnology companies have raised billions of dollars on NASDAQ, signaling enormous potential but also reflecting a troubling trend: technology developed in Israel increasingly "escapes" abroad. At least 12 original drugs originating in Israel at the preclinical stage have undergone clinical development and commercialization overseas. While this highlights Israel's strengths in academic and entrepreneurial development, it also underscores the inability to retain and scale these innovations locally.

Factors Driving Technology Leakage

Several factors contribute to this phenomenon:

1. **Capital requirements**: The need for significant long-term funding drives companies to raise capital abroad, leading to further investments outside Israel.
2. **Infrastructure deficiencies**: The lack of GMP-compliant facilities in Israel forces companies to conduct critical development stages overseas. GMP services are essential to building a robust, innovation-driven industry.
3. **Limited incentives for local commercialization**: Companies often exit at the preclinical research stage, generating short-term profits but failing to progress through advanced research, clinical trials, technology transfer, production, and marketing within Israel. A tailored GMP and commercialization infrastructure could change this trajectory, creating significant long-term value.
4. **Employment challenges**: The absence of industrial plants and local R&D initiatives leaves many researchers and scientists without viable career options, prompting them to work abroad.

Implications for Israel's Economy and Innovation

The ongoing transfer of knowledge, talent, and technology from Israel to other countries creates substantial value for foreign economies while depriving Israel of critical opportunities. This brain drain impacts local innovation ecosystems, reducing the country's ability to foster sustained industrial growth in life sciences.

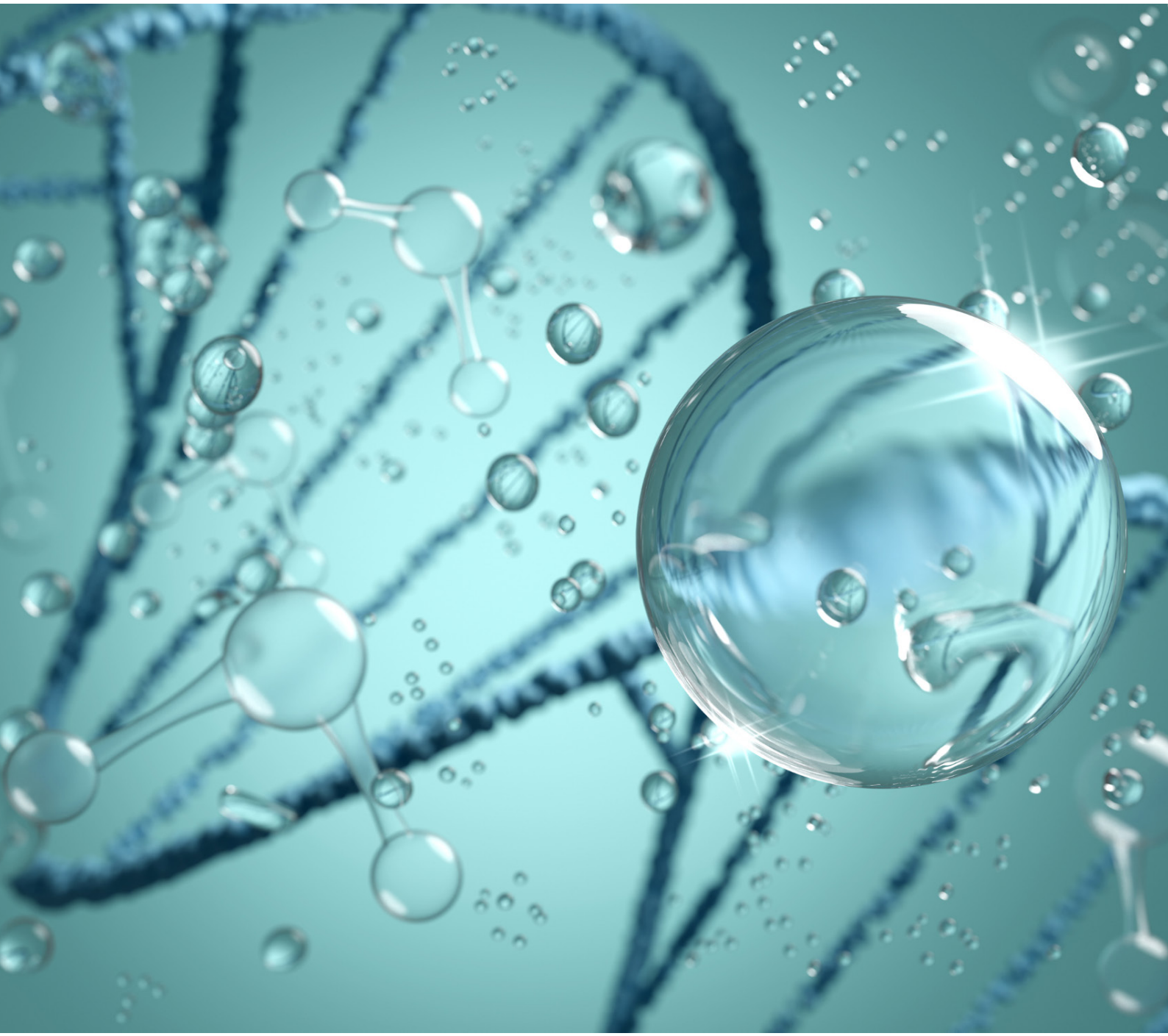
Recommendations for Strengthening the Sector

To address these challenges and unlock the full potential of the biotechnology sector, the Israeli government must take urgent action:

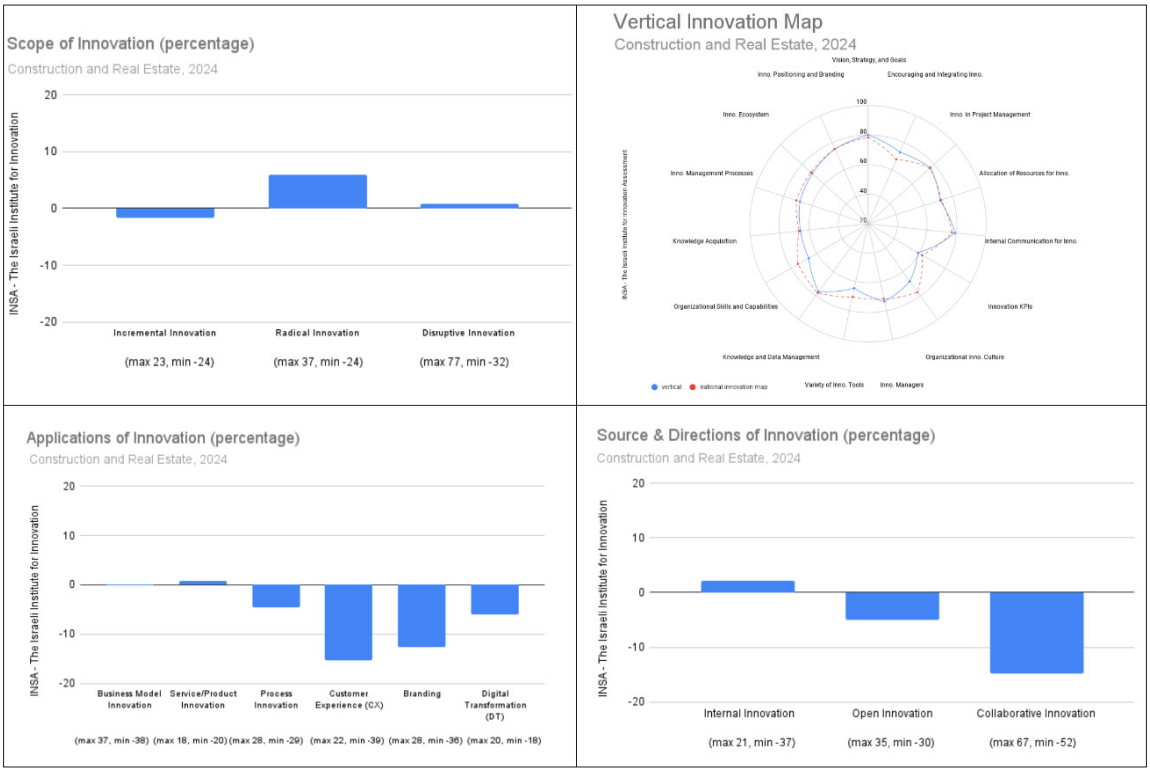
1. **Establish dedicated funding mechanisms**: Create local investment funds focused on biotechnology to support long-term growth.
2. **Develop national infrastructure**: Build GMP-compliant facilities to enable clinical-stage development and production within Israel.

3. **Invest in workforce development**: Launch training programs to build the necessary expertise at all levels, from technical staff to managerial leadership.
4. **Encourage scientist repatriation**: Offer incentives for researchers and scientists working abroad to return and contribute to the local industry.

By implementing these measures, Israel can foster an environment where biotechnology innovation thrives locally, creating a self-sustaining ecosystem that delivers long-term economic and social benefits.



Construction and Real Estate



Key Characteristics

Innovation Map

The sector's innovation indicators generally align with or slightly lag behind the national average across most categories. However, compared to low-tech sectors (see Appendix D), it outperforms the average in most areas. Its only notable strength relative to the national average lies in fostering and implementing innovation. Conversely, it falls significantly below the national average in three key categories: innovation vectors, innovation culture, and organizational innovation skills and capabilities.

Regarding innovation sources, the sector demonstrates average performance but shows a clear weakness in collaborative innovation. In terms of innovation applications, performance tends to be around the average, though there are significant challenges in customer experience and branding.

Despite these weaknesses, there are encouraging signs of progress. The sector is beginning to place greater emphasis on the encouragement and implementation of innovation, as well as on defining innovation vision, strategy, and goals. This shift suggests a growing awareness of the importance of innovation, likely driven by the increasing need to adopt and integrate new technologies.

Expert Opinion – Construction and Real Estate / Yogev Katzir[10]

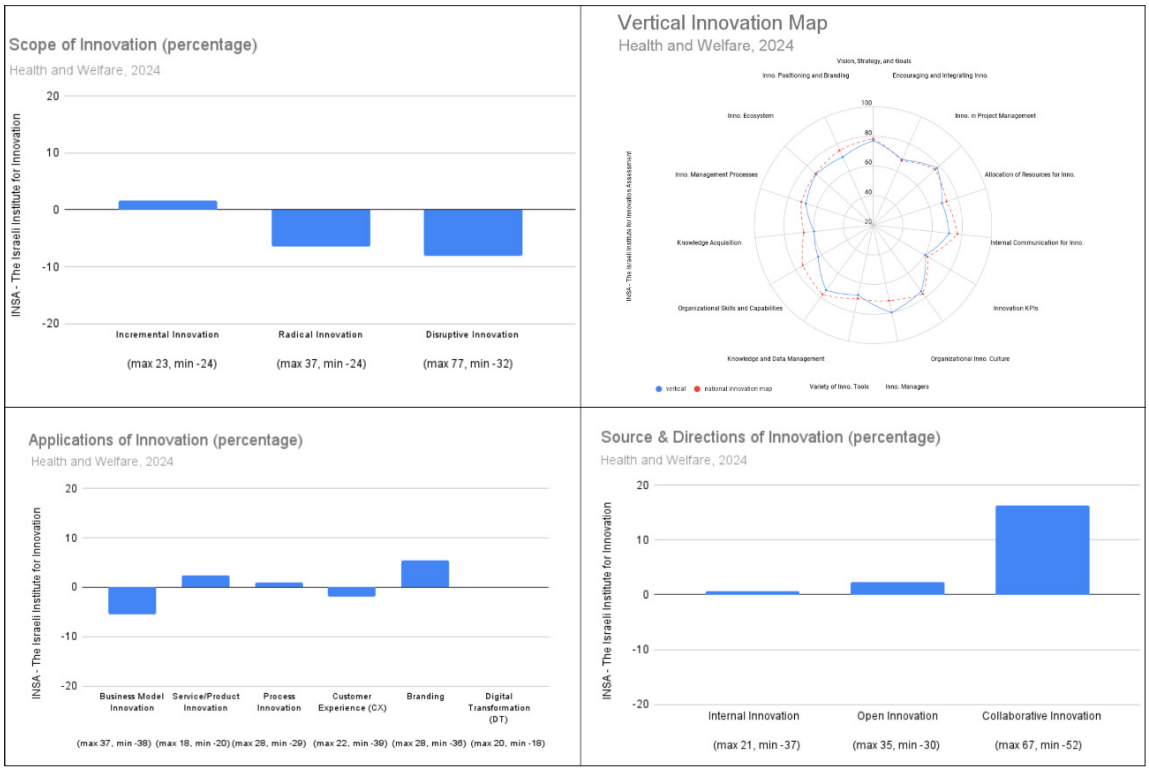
The construction sector is undergoing a profound technological transformation, driven by the increasing adoption of innovation and advanced technologies. Over the past decade, investments in construction technology (ConTech) have exceeded $50 billion, with an annual growth rate of 12%. By 2030, the market is expected to reach approximately $1.5 trillion. Innovations such as modular construction, 3D printing, and artificial intelligence-driven project management are revolutionizing the industry, enhancing efficiency, reducing costs, and boosting productivity.

1. **Digitization in the Construction Industry:** The adoption of digital tools and online technologies is expanding across the sector. Building Information Modeling (BIM) allows developers and planners to design, construct, and manage buildings more intelligently and efficiently, significantly improving transparency and collaboration among all stakeholders involved in a project.
2. **Green and Smart Construction:** In response to climate change and the increasing demand for sustainability, green building practices are gaining momentum. In 2020, green construction accounted for approximately 11% of the global market, with projections indicating growth to 30% by 2030. Smart energy management technologies, such as intelligent HVAC systems and buildings powered by renewable energy, are playing a critical role in reducing carbon emissions and improving energy efficiency.
3. **Automation and Robotics:** Robotics and automation are advancing rapidly and becoming integral to the construction industry. In 2022, the market for construction robotics was valued at approximately $3 billion, with expectations to reach $7.5 billion by 2027. Robotics applications, including 3D printing of buildings and autonomous cladding systems, enable faster, more precise, and safer construction while reducing reliance on human labor.
4. **Collaborations and Open Innovation:** A growing trend in the industry is the increase in partnerships between construction firms, technology startups, and academic institutions to develop innovative solutions. More companies are embracing open innovation models to shorten time to market and tackle global challenges such as labor shortages and rising material costs.
5. **Digital Transformation and Disruptive Innovation:** While most innovations in the construction sector have traditionally been incremental, the integration of artificial intelligence, automation, and digital technologies is now driving large-scale disruptive change. The emergence of generative AI, for instance, is optimizing complex construction processes such as project planning and management, enabling companies to maximize resources and gain a competitive edge.

In Israel, many leading construction firms have already begun collaborating with tech startups. However, there remains substantial potential for further implementation of innovative technologies and processes to significantly improve the speed, cost, and quality of construction.

10 Yogev Katsir is an expert in innovation and technology within the construction, real estate, and infrastructure sectors. He founded and managed the innovation division at Shikun & Binui, established the INFRALAB innovation lab, and is currently leading the CivicLabs innovation center.

Health and Welfare



Key Characteristics

The health and welfare sector exhibits an overall average level of innovation across various categories, with most indicators slightly below or equal to the national average. Notably, the sector outperforms the national average in the presence of innovation managers. However, lower scores in other areas may indicate internal organizational challenges and structural barriers to innovation.

Weaknesses in the sector are particularly evident in knowledge acquisition and organizational capabilities, as well as in open innovation within the sources of innovation. These shortcomings suggest difficulties in managing structured innovation methodologies, especially in handling external innovation processes. At the same time, the sector demonstrates relatively strong performance in collaborative innovation. However, without a defined external strategy, this strength may not translate into meaningful organizational impact. This combination of factors suggests that while there is potential for external collaboration, these capabilities are not being fully leveraged.

In terms of the intensity and pace of innovation, the sector lags behind other industries in radical and disruptive innovation. However, as mentioned, its relative strength in collaborative innovation stands out, as this is typically a weak area in most industries. This characteristic aligns with the sector's collaborative approach, which enables external business and private entities to access organizational assets and knowledge, acting as a catalyst for innovation in various economic sectors. Nonetheless, as noted earlier, a key challenge remains—organizations in the sector struggle to achieve high innovation performance in other areas, limiting their overall innovation potential.

Addressing this challenge requires a stronger focus on external learning and structured management of external innovation processes. In terms of innovation applications, the sector's performance hovers around the national average, but with noticeable volatility—another indication that the lack of a systematic innovation management approach may be impeding more consistent progress.

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Expert Opinion – Health and Welfare / Ziv Ronen[11]

The healthcare and welfare sector is undergoing continuous transformation, a process that was both accelerated and refined during the COVID-19 pandemic. At the same time, demographic and medical trends—such as increased life expectancy, the rise in chronic diseases, and the growing demand for early and remote diagnosis and treatment—have underscored the need for advanced and adaptable solutions. Experts emphasize that organizations must invest more in new technologies and respond proactively to rapid market changes. Current trends indicate rising demand for digital health services, telemedicine, remote healthcare, integrated health information systems, and artificial intelligence for medical data analysis and treatment management. Additionally, personalized medicine—tailoring treatments based on a patient's genetic profile and personal data—is gaining prominence.

To address these shifts, substantial investment in digital technologies, information systems, and artificial intelligence is essential to enhance both service quality and operational efficiency. Experts highlight the critical role of collaboration between healthcare organizations and technology companies in driving innovation. A strong foundation in vision, strategy, and innovation goals—along with the appointment of innovation managers and expertise in project management innovation—are important initial steps. However, there remains a pressing need to strengthen key performance indicators (KPIs) for innovation, improve external knowledge acquisition, and enhance skills and organizational capabilities related to innovation.

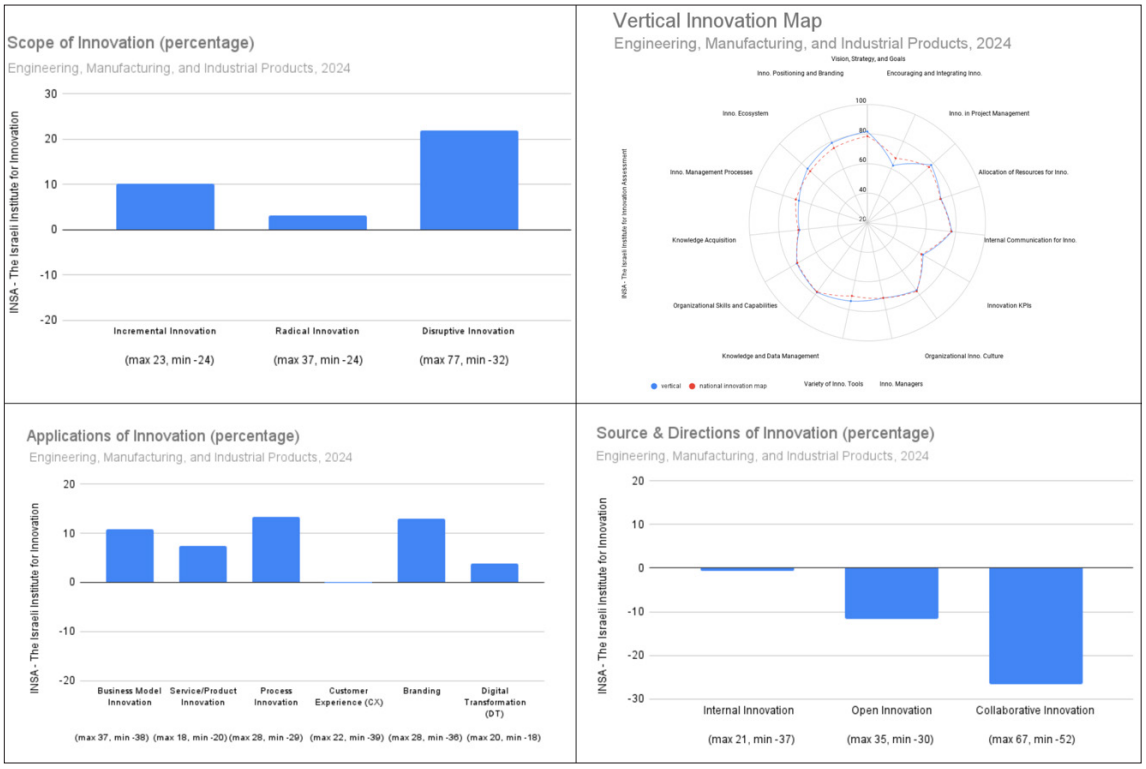
One of the core challenges in this sector is the lack of a clear definition of innovation within organizations. A structured methodology, well-defined innovation principles, and the establishment of measurable innovation metrics—particularly in the biotech and medtech fields—are crucial developments that would benefit both the industry and the broader economy.

Currently, significant variation exists among healthcare organizations in their approach to innovation. Some focus on strengthening data management and leveraging digital innovation, while others foster internal innovation initiatives. Certain organizations integrate organic innovation—driven by ideas from the medical team—with open innovation, facilitating collaboration with startups and external entities. Others prioritize investment in research and development to enhance the institution's capabilities.

In conclusion, the healthcare sector holds immense global value, and Israel, as a hub of entrepreneurship, is well-positioned to lead in this domain. Organizations that actively promote innovation gain a distinct competitive advantage. While the Israeli healthcare system provides an initial framework for innovation, it still lacks well-established and adequately funded processes to support long-term, large-scale innovation efforts.

11 Ziv Ronen is the Head of Innovation at the Galilee Medical Center (Poriya) and an entrepreneur actively promoting entrepreneurship and innovation processes in the northern periphery. He previously served as the Business Development Manager at the Portland Trust, where he established a company focused on medical entrepreneurship and innovation.

Engineering, Manufacturing, and Industrial Products



Key Characteristics

The report indicates that innovation scores across most categories closely align with the industry average, with only minor deviations that are not statistically significant. As in other industries, the sector's main strengths lie in innovation vision and strategy, the development of an innovation ecosystem, and knowledge management. However, key weaknesses are evident in innovation performance metrics and project management innovation. The only category where the sector falls slightly below the industry average is in fostering and implementing innovation.

Compared to the national average, the sector demonstrates a strong presence in incremental innovation and an even greater advantage in disruptive innovation. However, when examining the sources of innovation, the sector exhibits relatively low values both internally and externally, with notable weaknesses in open innovation and collaborative innovation.

In terms of innovation applications, the sector performs particularly well in four areas: product and service innovation, process innovation, business model innovation, and branding innovation. While strong performance in product and process innovation is expected given the sector's nature, its strengths in business model and branding innovation are noteworthy. These trends may indicate a growing recognition among organizations of the need to reinvent themselves and offer greater value to customers beyond the core product.

Expert Opinion – Engineering, Manufacturing, and Industrial Products / Benny Amoyal[12]

The report's conclusions highlight targeted investment in innovation, particularly in product innovation, process innovation, and, to some extent, digital transformation. However, despite these efforts, the productivity index of Israeli industry remains 30% lower than the European average. While the Fourth Industrial Revolution began in Europe in 2011, its adoption in Israel lagged by nearly a decade.

The Ministry of Economy's initiative to establish institutes such as the Advanced Manufacturing Institute and the Efficiency Institute has helped raise awareness of digital transformation, automation, robotics, and innovation in traditional manufacturing. However, five years after their establishment, the impact on productivity remains limited.

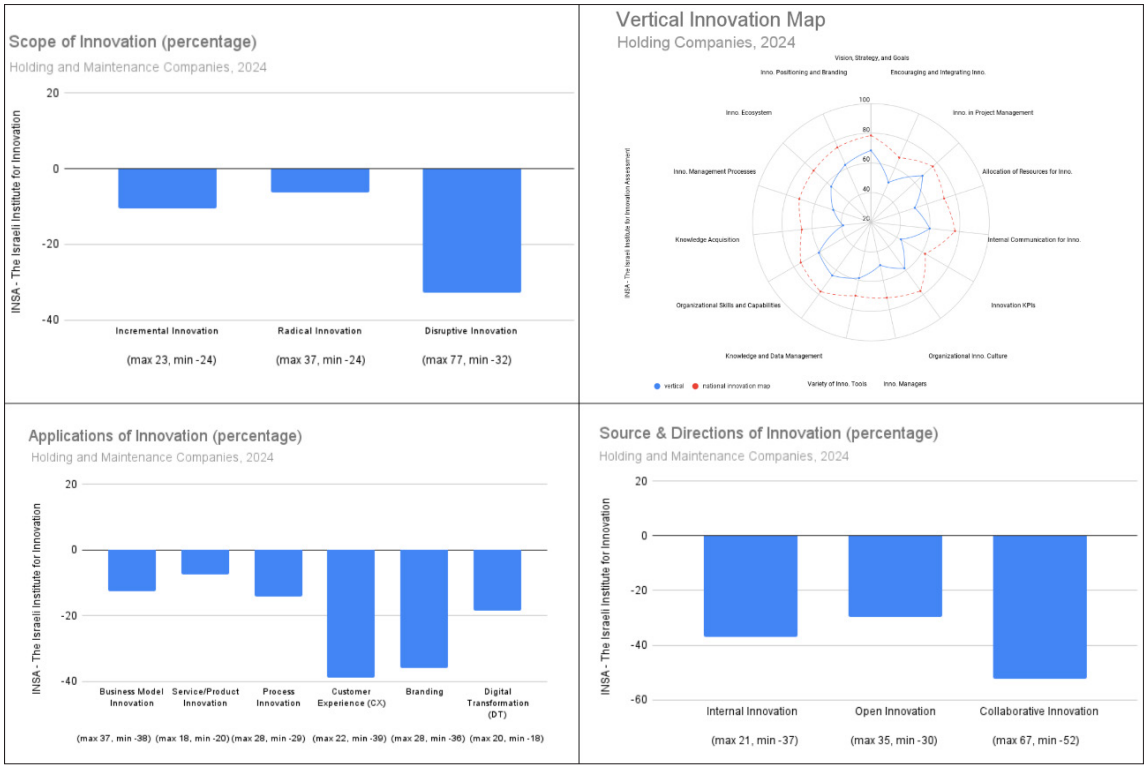
At the same time, approximately 300 factories have undergone diagnostic assessments and developed roadmaps for improving productivity through the adoption of advanced technologies. These transformation processes are inherently slow, but the expectation is that in the coming years, they will mature and contribute to a measurable increase in productivity.

Yet productivity alone is not the sole indicator of success. Innovation is a critical factor in enabling Israeli industry to achieve meaningful breakthroughs. In this regard, the Israeli Innovation Institute's initiative to develop measurement frameworks and standardization in innovation is particularly significant. A review of these 300 factories, which serve as a representative sample of the broader industry, highlights two primary weaknesses: the absence of a clear innovation strategy and the lack of a digital transformation framework that aligns with business objectives. While strategy is essential, it is not sufficient on its own, companies must also cultivate a corporate culture that fosters employee training, enhances technological adoption, and promotes innovation across all operational areas.

Analysis of these 300 factories reveals that only 5% have a well-defined, written innovation strategy. Notably, these factories also exhibit the highest productivity levels. Additionally, factories with a consistent track record of product innovation have successfully built a competitive edge, allowing them to expand into export markets, where international sales have become their primary growth driver.

12 Benny Amouyal is a senior consultant, industrialist, entrepreneur, and expert in Industry 4.0. He is the former CEO of the Advanced Manufacturing Institute.

Holding and Maintenance Companies



Key Characteristics

The holding industry exhibits some of the lowest innovation metrics across all measured categories, ranking among the weakest sectors in the economy. One of its key weaknesses is knowledge acquisition, as the sector invests minimally in organizational learning and internal knowledge development. This may stem from its operational nature, which typically lacks a strong research and development environment. Additionally, innovation performance metrics are virtually nonexistent, resource allocation is limited, and few, if any, roles are dedicated to fostering innovation.

Encouragement and implementation of innovation are also severely lacking, with minimal investment in promoting and integrating new ideas. Another area of weakness is knowledge and data management, though the sector performs slightly better in this category than in others, likely due to its reliance on maintenance and logistics management.

When examining sources of innovation, the sector reports the lowest figures in the economy. Unsurprisingly, it also ranks at the bottom in disruptive innovation, performing significantly below the national average. However, while still below average, its performance in radical and incremental innovation is somewhat more promising.

In terms of innovation applications, the industry shows exceptionally low scores in user experience and branding innovation, the weakest in the entire economy. These two areas could provide significant value to holding companies but remain largely underutilized. On a more positive note, the sector's performance in product and service innovation is closer to the national average, indicating a slightly stronger position in this domain.

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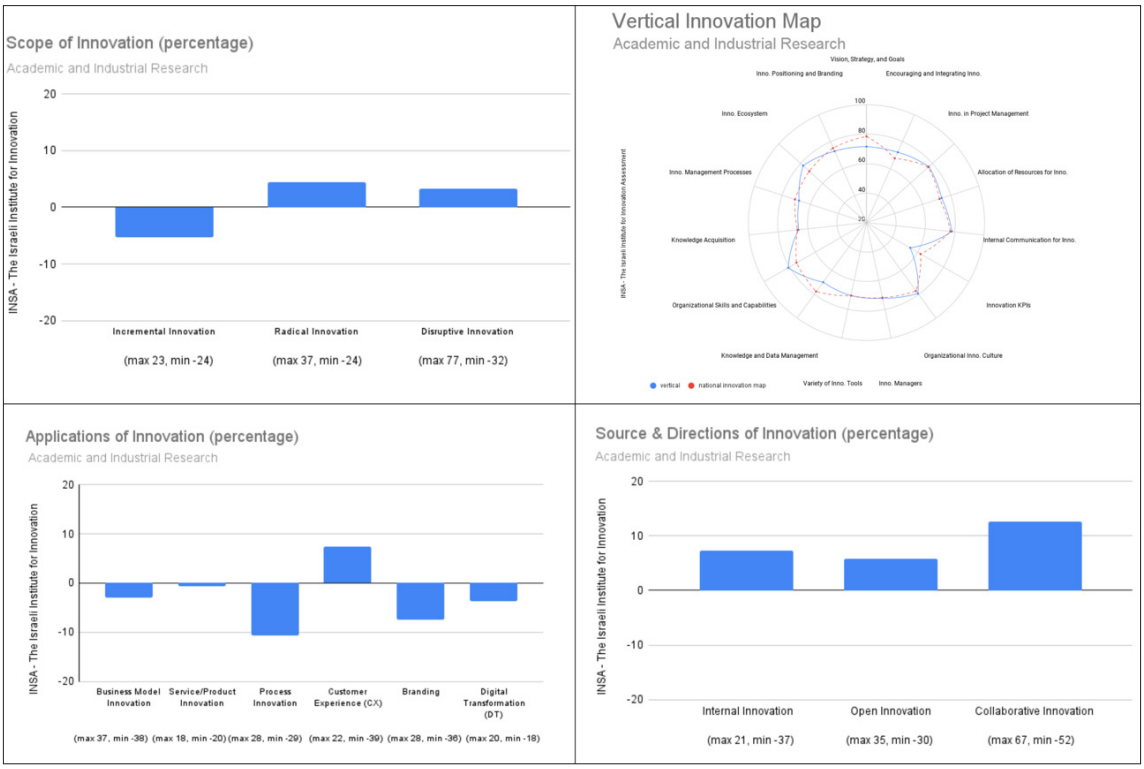
Perhaps the most concerning metric is digital transformation, where the sector scores the lowest in the Israeli economy. Digital transformation is a fundamental form of innovation widely adopted across most industries, and the sector's weak performance in this area suggests a fundamental lack of innovation awareness and an overall failure in innovation management. Addressing this gap would be a critical first step toward fostering change and strengthening the sector's innovation capabilities.

Education and Academia



Key Characteristics

The field of education and academia, focused on learning, knowledge, and science, is expected to be a leader in innovation. In the category of organizational innovation skills and capabilities, the sector even surpasses the national average, which can be attributed to the high level of professionalism among academic staff. Furthermore, strengths in the innovation ecosystem, organizational communication, and collaborative innovation are evident, fueled by a commitment to academic freedom, learning, and collaborative research.

However, it is noteworthy that educational institutions do not function as business entities, which contributes to weaknesses in key managerial areas such as vision, strategy, innovation goals, key performance indicators (KPIs), and innovation management. These gaps emphasize the urgent need to integrate innovation management methodologies in educational and academic institutions, especially for those striving to remain competitive in a rapidly evolving market. The primary driver of innovation in this sector comes from research, with researchers' continuous need to publish papers, register patents, and the efforts of commercialization companies to bring developments to fruition.

Surprisingly, knowledge acquisition at the organizational level is only at a medium level, largely due to the lack of structured methodologies within organizations. In contrast, collaborative innovation plays a dominant role, indicating that while institutions do not heavily outsource knowledge, they are open to sharing it with external entities. This openness allows external partners to foster innovation by leveraging the assets already available within the sector.

Educational organizations tend to favor open innovation, though their inability to operate as traditional business entities means that the nature of their business opportunities differs from the rest of the economy. These opportunities primarily revolve around knowledge development, with the "customer" being the student. The sector often engages in broad and diverse collaborations, attempting to establish permanent interfaces with business sectors.

Regarding innovation strengths, the education and academia sector shows slight weakness in incremental innovation but some strength in radical innovation. This can be attributed to academia's focus on generating groundbreaking new knowledge rather than implementing or optimizing existing ideas, as researchers are often valued for significant innovations over incremental improvements. The sector's performance in disruptive innovation is average, despite many opportunities to generate disruptive ideas, largely due to a lack of business acumen to drive such innovations forward.

In terms of innovation applications, the sector displays noticeable weaknesses in process innovation, branding innovation, and business model innovation. However, it demonstrates significant strength in customer experience innovation, likely due to the growing competition in the sector and the unique relationship between educational organizations and their students. A key issue arises here: while there is an uptick in customer experience innovation, it is not accompanied by a corresponding increase in branding innovation. This discrepancy contributes to the perception of the sector as conservative and disconnected. The sector's challenges in business model and process innovation are unsurprising, given the inherent bureaucracy and heavy regulation typical of educational institutions.

Expert Opinion – Education and Academia / Dr. Eyal Benjamin[13]

The education sector is characterized by significant variability among its institutions and organizations, which range from elementary education to colleges, universities, and professional courses offered by private or in-house organizations. As a result, the application of innovation methodologies varies widely from one organization to another. While private organizations have the flexibility to adopt product innovation or business model innovation tools, academic institutions, particularly public ones, are often constrained by regulations and international standards.

A common thread across all educational organizations is the increasing emphasis on user or consumer experience in recent decades. This trend is reflected in the survey data, which show substantial investment in customer experience innovation, particularly compared to the national average.

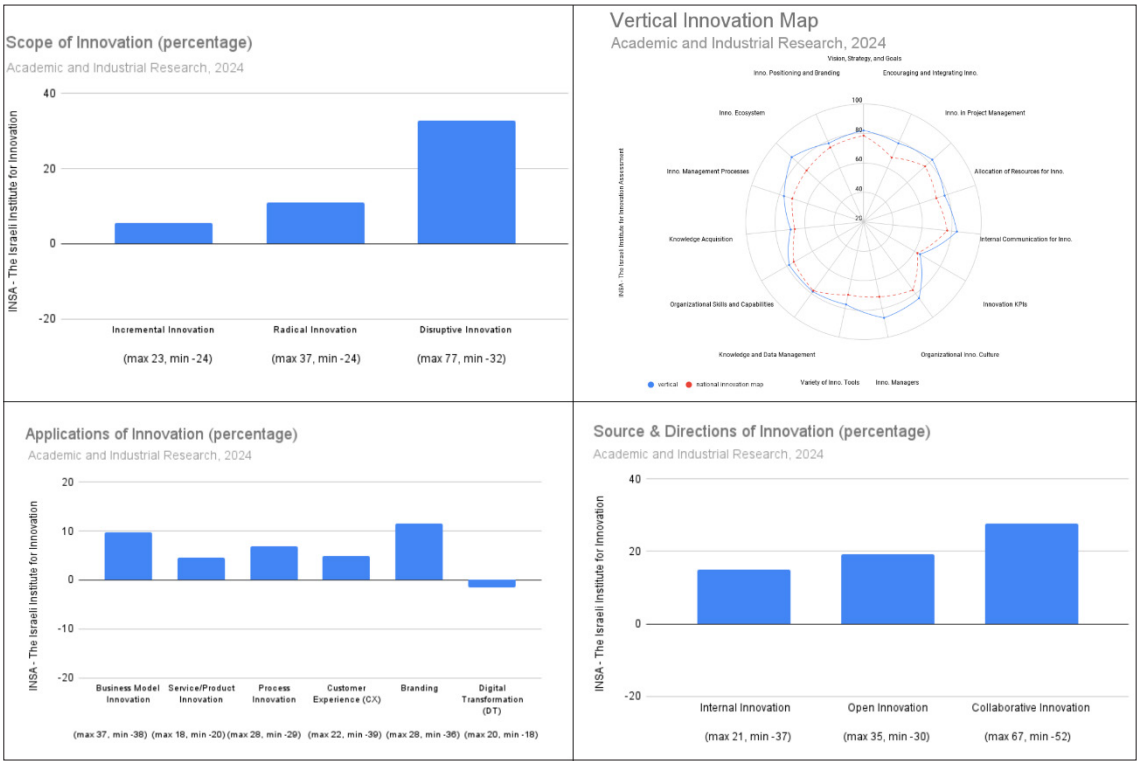
Most educational organizations are public institutions, and their status as such poses challenges in defining an "organizational strategy." This concept, often borrowed from the private sector, is difficult to apply in the public domain. These challenges are evident in the processes of defining innovation strategies, which are rated significantly lower than the national average. Ideally, an innovation strategy should be derived from and aligned with the broader organizational strategy.

At the same time, there is a prevailing narrative, especially on social media, that formal education is outdated, out of touch, and even irrelevant. However, those working within the sector are aware of numerous initiatives underway that are transforming parts of the education system from within. The disconnect between this reality and the public narrative is likely connected to the sector's weakness in branding innovation.

It is also important to recognize that while technology is advancing rapidly, the biological evolution of the human species—including the cognitive abilities of students—progresses at a different pace. Our capacity to learn is not governed by the speed of artificial intelligence but by the structure of the human brain. Therefore, adopting innovation in education requires a responsible balance between the rapid development of technology and the learning capabilities of individuals—a task that is both challenging and essential.

13 Dr. Eyal Benjamin is a serial entrepreneur and researcher specializing in entrepreneurship and strategic innovation development. He is a faculty member at the Coller School of Management at Tel Aviv University, Director of the Coller Institute of Venture, and Head of the Dan Program for Startup Development at Tel Aviv University.

Academic and Industrial Research



Key Characteristics

The research sector encompasses organizations engaged in academic or industrial research as one of their core activities. Compared to other sectors, this sector ranks relatively high in most categories, particularly in promoting and embedding innovation, organizational innovation management, and the innovation ecosystem. It is no surprise that the sector excels in disruptive innovation, where it demonstrates a notable dominance over other sectors.

When it comes to sources of innovation, the research sector shows considerable strength in collaborative and open innovation. These strengths align with the nature of both academic and industrial research, where multi-institutional and multinational research teams have historically been common. This tradition of open research supports the sector's strong collaborative and open innovation capabilities.

The research sector generally performs well in most areas of innovation applications, with one notable exception: digital transformation. Within this category, the sector particularly emphasizes three areas: process innovation, business model innovation, and branding innovation. The prominence of the latter two—business model innovation and branding innovation—is both surprising and significant, as these areas are not traditionally associated with industrial or academic research. This emerging trend highlights the growing recognition that innovation is multidimensional. Organizations now understand that excelling in just one or two areas of innovation is insufficient; true success requires a broad, methodical approach to fostering innovation across all domains.

Expert Opinion – Research Sector / Dr. Dan Kaufman[14]

The research sector stands out for consistently outperforming other sectors across all tested innovation categories (1-15), with scores above the average in every area. Notably, the sector excels in all forms of innovation—incremental, radical, and disruptive—particularly in disruptive innovation. These findings reflect the inherent focus of the research sector on pioneering and leading innovation. The central role of academic and industrial research bodies in driving groundbreaking discoveries is evident in their high rankings across various innovation metrics, including those related to work processes and innovation ecosystems.

However, the research sector's relatively low ranking in digital innovation can be attributed to its focus on B2B solutions, which often serve as a value chain for other industries. While it may not lead in digital transformation, the sector shows strength in branding innovation and, to a lesser extent, customer experience innovation. This suggests that research bodies, even when primarily focused on research and knowledge sharing, are adapting to the evolving demand for advanced marketing strategies, customer experience focus, and innovative branding.

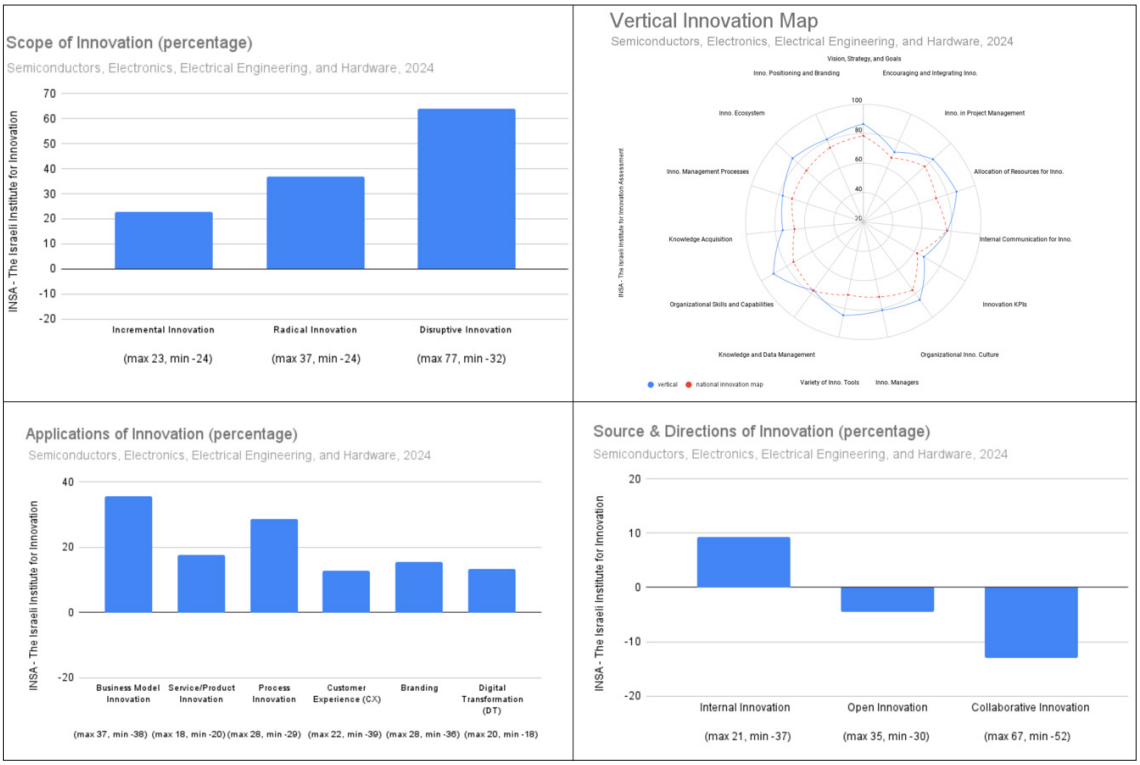
A significant strength in business model innovation further highlights the creativity and diversity integrated into research and development processes over the past few decades. The complexity of relationships between academic research bodies, industrial organizations, and multinational companies reflects how innovation is now embedded across a broad spectrum of commercial collaborations.

When it comes to disruptive and radical innovation, academia and multinational research organizations stand out. These entities focus not only on theoretical research but also on scientific and technological breakthroughs, which accounts for their excellence in these areas. In contrast, public research institutes, which primarily conduct applied research for local industries (such as agriculture, transportation, food, and metal industries), contribute more significantly to incremental innovation. This focus on continuous improvements, rather than dramatic breakthroughs, is aligned with the practical needs of these industries.

Additionally, the funding bodies for academic research—primarily public—require researchers to conduct basic research that often leads to disruptive or, at the very least, radical innovation. This is reflected both in the research topics and in the investment in expensive infrastructure designed to facilitate scientific and technological breakthroughs. Notably, academic research funding amounts to about 2.5 billion NIS, surpassing the investments made by the Innovation Authority in industry. Even funding for research conducted by research bodies within large multinational companies, such as the European Research Program and various programs supported by the Innovation Authority (e.g., MAGNET), mandates investment in breakthrough research. Meanwhile, research institutes tend to focus more on applied innovation that directly serves the needs of local industries, underscoring the sector's emphasis on incremental innovation.

14 Dr. Dan Kaufman is a senior faculty member at Sapir College, where he serves as the head of the Master's program in Innovation and Entrepreneurship in Organizations. He also directs the college's Innovation and Entrepreneurship Center. Dr. Kaufman's research focuses on various aspects of innovation within biotechnology and sustainability, as well as government policies aimed at promoting innovation.

Semiconductors, Electronics, Electrical Engineering, and Hardware



Key Characteristics

This field is characterized by an advanced development environment, encompassing engineering and manufacturing within the realms of electricity and electronics. It is recognized as a research and development (R&D)-intensive sector, driven by continuous technological advancements. As such, the field scores above average in most categories, with particular strengths in management and methodological areas such as defining innovation strategy, setting goals and objectives, resource allocation, project management, and management of innovation processes

. Other notable advantages compared to other sectors include well-developed organizational innovation skills and capabilities, as well as a culture of organizational innovation, which indicates resilience and a high potential for generating innovation. However, as in many industries, this sector faces challenges in defining performance indicators and effectively encouraging and implementing innovation, which could limit its ability to fully realize its innovation potential. Despite these challenges, the overall indicators for the sector are strong relative to other industries.

The sector demonstrates strength across all levels of innovation, particularly in disruptive and radical innovation. This is unsurprising for a technological field that has undergone revolutions and significant technological leaps, fueled by substantial R&D investments. However, an interesting and somewhat unexpected finding is the sector's dominance in closed innovation and its relative weakness in open innovation, particularly collaborative innovation. This trend is likely driven by the need to protect intellectual property in a field marked by high secrecy and patent disputes. In addition, the sector's expertise fosters a sense of exclusivity, accompanied by strong organizational capabilities, which can sometimes result in a reluctance to pursue collaborations or open innovation.

A striking contrast exists between the sector's weakness in collaborative innovation and its strength in innovation ecosystems and business model innovation. This can be explained by the sector's reliance on

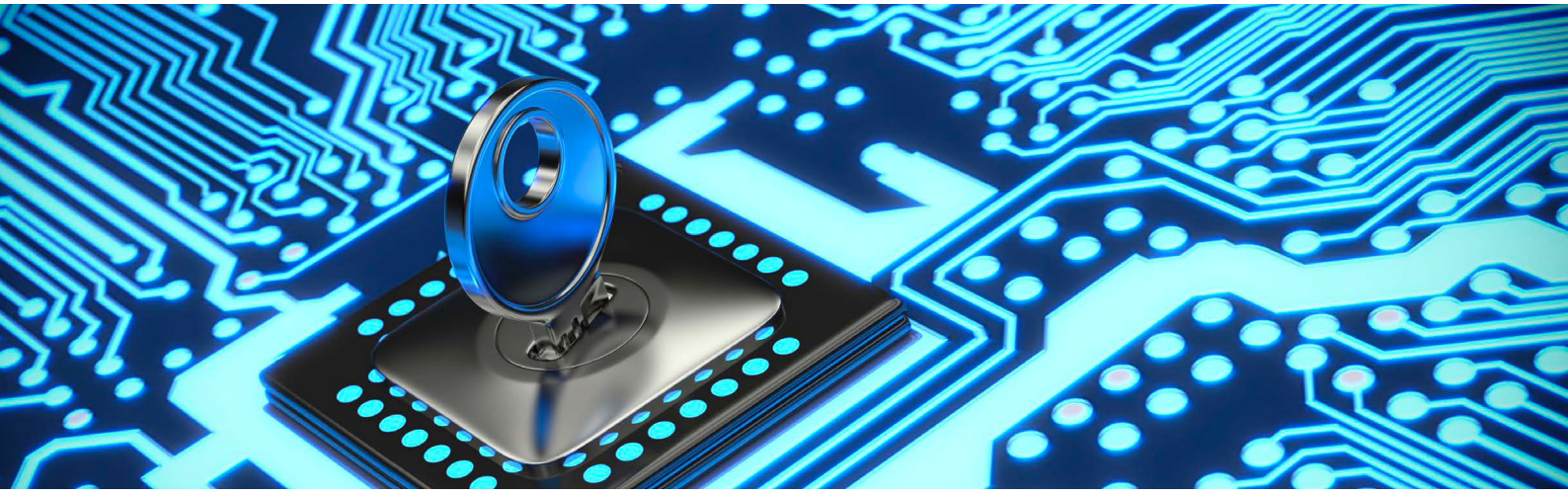
numerous partners and the need to create broad ecosystems due to the integration of its technological components into large, complex systems. On the other hand, the importance of intellectual property protection and the high costs associated with manufacturing processes drive the sector toward closed and linear innovation models. This creates managerial complexity and necessitates informed decision-making when determining the boundaries of collaboration.

Expert Opinion – Semiconductors, Electronics, Electrical Engineering, and Hardware / Gil Avivi[15]

The semiconductor industry has undergone significant transformations in recent years. The costs associated with chip development and production have risen sharply, largely due to the increasing complexity of transitioning to smaller transistors. Moore's Law, which asserts that the number of transistors on a silicon wafer will double every 18 to 24 months, has driven technological advancements for the past 60 years since its introduction by Gordon Moore, Intel's founder. This exponential increase in transistor count has powered the development of products like the iPhone, offering improved performance and new capabilities. However, in recent years, Moore's Law has shown signs of slowing down and getting it back on track may require investments in disruptive and business model innovations. Chiplets, which combine multiple manufacturing technologies in one package, represent a disruptive innovation in the industry, enabling an open ecosystem and new business models that drive the introduction of novel products to the market.

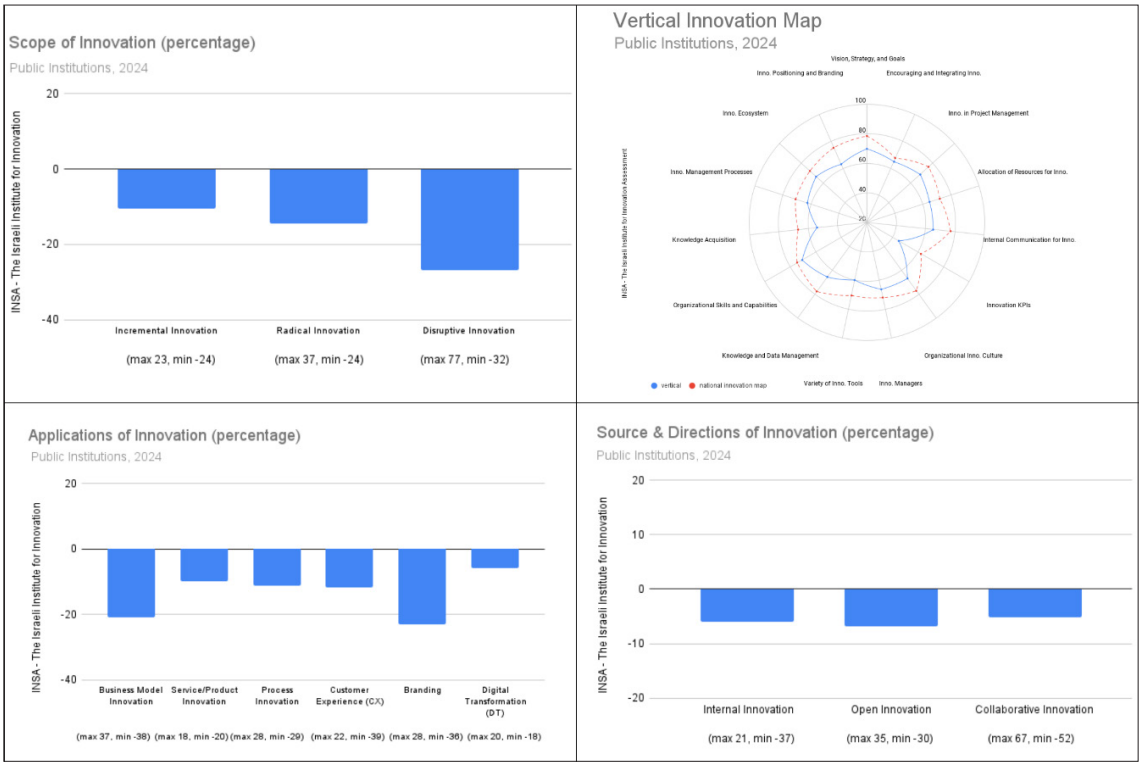
The chip industry is largely characterized by closed intra-organizational innovation, particularly concerning advanced manufacturing technologies. The concentration of suppliers in semiconductor manufacturing equipment has led to higher prices, with a single company now holding a monopoly on advanced lithography. Additionally, de-globalization trends, especially the exclusion of China by the U.S., have disrupted supply chain efficiency, adding further cost pressures. To recover investments in manufacturing plants, the industry has seen a push toward mass production. As a result, the number of semiconductor manufacturers has decreased from 25 two decades ago to just three today, with the majority of production now concentrated in the East.

The future of semiconductor production by the remaining three companies also appears uncertain. Intel is grappling with a financial crisis that limits its ability to open new factories; TSMC faces geopolitical risks due to most of its factories being located in Taiwan, which is under threat from China; and Samsung is struggling with the transition to 3-nanometer technology. In response to these challenges, the U.S. government has announced a grant program exceeding $50 billion to incentivize semiconductor manufacturing within the U.S. and safeguard the future of this critical industry, which drives global technological progress.



15 Gil Avivi is a Director of Corporate Strategy at Intel. He has held various roles at Intel, including in engineering, product management, business development, and strategic planning. Previously, Gil worked at Merrill Lynch in investment banking, where he advised technology companies on strategic alternatives.

Public Institutions



Key Characteristics

The sector as a whole exhibits a notably lower level of innovation compared to the national average across all measured categories. However, it shows some relative strengths, particularly in organizational innovation skills and capabilities, as well as in promoting and embedding innovation. On the other hand, significant weaknesses were identified in areas such as knowledge acquisition, the positioning and branding of innovation, and key performance indicators (KPIs) for innovation. These areas scored well below the national average, which itself is already low in this sector.

Given that this sector is not traditionally known for driving innovation, it is not surprising that it lags behind in all levels of innovation intensity, especially in disruptive innovation. Additionally, the sector exhibits weaknesses across all sources of innovation—internal, open, and collaborative. These weaknesses are also reflected in all innovation applications, with particular emphasis on business model innovation and branding innovation.

The broad deficiencies across all innovation areas are particularly concerning, especially in light of the growing expectations for public institutions to deliver transparency, efficiency, and high-quality services to citizens. Market trends indicate a shift towards digital services, the integration of artificial intelligence in management and operations, and the adoption of technological solutions to enhance public service delivery. Moreover, there is an increasing demand for integrated information systems to streamline government operations and offer personalized services to citizens.

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Expert Opinion – Innovation in the Public Sector / Merav Peretz-Belinsky[16]

The level of innovation in the Israeli public sector, while improving in recent years, remains insufficient, as reflected in the survey results. There is a noticeable gap from the national average across all parameters, compounded by low current investment in innovation. The public sector, which is responsible for managing essential services for the country's citizens, is often viewed as conservative, relying on cumbersome and lengthy bureaucratic processes. However, signs of innovation are emerging, particularly through the integration of new roles such as data leaders and Chief Data Officers (CDOs), as well as innovation initiatives in leading organizations.

During the "Iron Sword" war, innovation was evident in several areas, including collaborations with high-tech companies in the Arava center and overcoming mental and bureaucratic barriers. These efforts resulted in an updated donation procedure, inter-ministerial collaborations, and more. Furthermore, during the war, two joint calls for proposals were issued by the Israel National Digital Agency and the Ministry of Innovation, Science, and Technology. One focused on artificial intelligence projects in government ministries, with nine initiatives selected, while the other aimed at artificial intelligence-based researches using public sector data, relevant to both emergency and recovery phases.

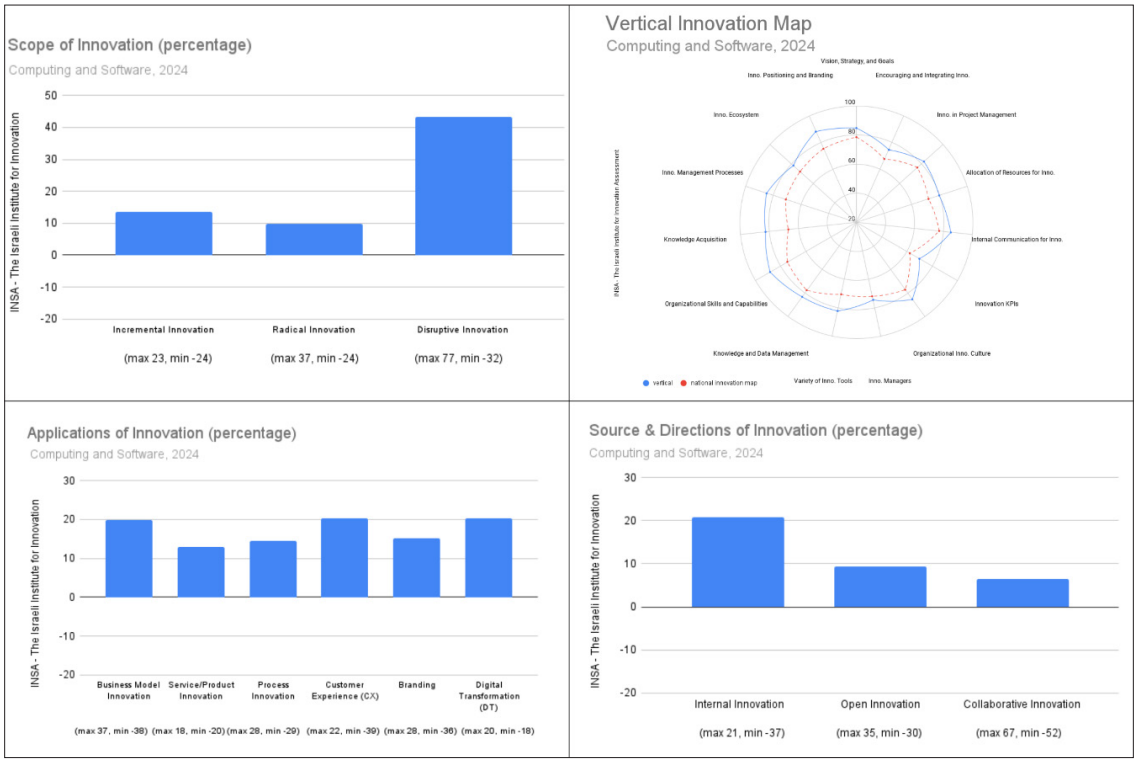
In recent months, additional structured initiatives have been launched with the goal of propelling the public sector into a new era of innovation. A key milestone is the launch of the Nimbus project, which is driving the transition to cloud services across government ministries. This project is expected to enable operational flexibility, improve inter-ministerial collaboration, and provide quick and easy access to information, all contributing to the creation of an advanced technological infrastructure that supports innovation.

Several new initiatives are also emerging to further drive innovation within the government. These include the Government Innovation Forum, led by the Prime Minister's Office, which promotes innovative thinking and inter-ministerial cooperation; the Challenges Arena, led by the Chief Accountant, which connects the public sector with the private sector and academia to address complex challenges; and a comprehensive work plan on artificial intelligence and data, led by the Israel National Digital Agency in broad partnership, aimed at integrating advanced technologies into government operations, improving decision-making processes, and streamlining public services. Additionally, the Israel National Digital Agency has established centers of excellence in cloud computing, data, and artificial intelligence.

Together, these initiatives signal that the Israeli government is taking active steps to position itself at the forefront of global innovation and lead meaningful change in the public sector. Ministries are also encouraging the public and business sectors to join this transformation, contributing their expertise and skills to advance national goals and promote innovation at the national level.

16 Merav Peretz-Belinsky is the Vice President of Data and Artificial Intelligence at the Israel National Digital Agency. She brings 20 years of experience from Unit 8200, where she was VP R&D in the data science center.

Computing and Software



Key Characteristics

As expected, the computing and software sector, a leader in high-tech, exhibits high levels of innovation relative to the national average across all categories. The sector stands out particularly in areas such as knowledge acquisition, management of innovation processes, organizational capabilities in innovation, organizational innovation culture, internal communication, and innovation positioning and branding. The only category where the sector shows average values is the definition of innovation managers. In many cases, the role of innovation manager is secondary to senior development positions, which limits the scope and impact of the role.

As a result, the sector's external innovation sources (open and collaborative) are underutilized, and its performance in defining vision, strategy, and innovation goals is somewhat weaker than anticipated. However, the sector excels in internal innovation, demonstrating advanced approaches and methodologies for fostering innovation. This is a sector where organizations are primarily focused on developing advanced technological solutions and products, while management of innovation processes —though structured and methodological—are sometimes viewed as slow, irrelevant, or not directly aligned with the organization's primary objectives.

Similar to many other sectors, the computing and software industry shows relative weakness in defining explicit performance indicators (KPIs) for innovation. Nevertheless, its performance in this area is still stronger than in many other sectors. As a technology-driven industry, the sector exhibits resilience across all types of innovation, with a notable dominance in disruptive innovation—among the highest in the economy. When it comes to innovation applications, the sector excels in all areas relative to the overall sector average, with a particular emphasis on customer experience, where it ranks among the top in the economy.

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Expert Opinion – Computing and Software / Natan Levy[17]

The computing and software sector is considered a central growth engine in the Israeli economy, with its unique characteristics including high profitability, low entry barriers, a skilled workforce, and global connections that foster rapid learning and development. However, the sector faces significant challenges, such as intense competition and a shortage of skilled labor.

Sector Strengths - The report indicates that the computing and software sector outperforms other sectors in all categories tested. This strength is a direct reflection of the quality of the workforce and the supportive environment for innovation. In this sector, innovation is a key driver of success and a critical factor in maintaining a competitive edge.

Comparison to Similar Sectors:

Semiconductors, Electronics, Electrical Engineering, and Hardware: Despite similarities in workforce quality, the global nature of both sectors, and the high level of innovation across various types of innovation, there are significant differences:

- **Disruptive Innovation:** The software and computing sector is 40% above the national average in disruptive innovation, while the semiconductor, electronics, electrical engineering, and hardware sector exceeds the national average by about 70%.
- **Collaborative and Open Innovation:** The software and computing sector exhibits higher levels of collaborative and open innovation compared to the national average. However, these levels still lag behind internal innovation. In contrast, the semiconductor sector shows significantly lower levels of collaborative and open innovation.

These differences may be influenced by factors such as entry barriers and the role of intellectual property in shaping innovation levels and types within these sectors.

IT and Information Systems:

While there are similarities in human capital and strong interfaces between the IT and software sectors, significant differences are observed in the following areas:

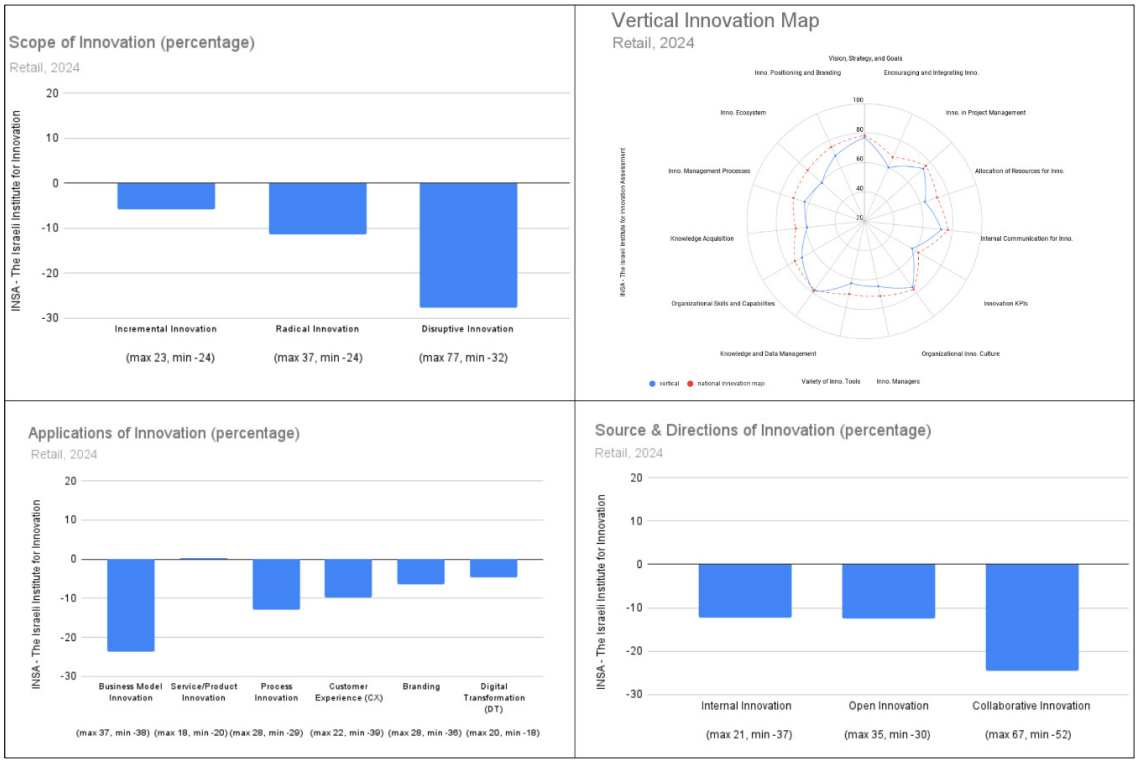
- **Collaborative Innovation:** The level of collaborative innovation in IT and information systems is notably lower than the national average, while the software and computing sector slightly exceeds the national average.
- **Customer Experience and Branding Innovation:** The software and computing sector performs better than the national average in customer experience and branding innovation, whereas IT and information systems are either at or slightly below the national average.
- **Business Model Innovation:** IT and information systems hold a notable advantage in business model innovation compared to the software and computing sector.
  Despite these differences, the vertical innovation map of the two sectors shows notable similarities, with most category scores being higher in the software and computing sector.
- **Trends and Forecasts:** While the report does not directly address innovation trends, it is evident that innovation levels in the sector are trending upward. This is driven by the ongoing need for innovation to maintain a competitive advantage in this rapidly evolving market.

Conclusion

The computing and software sector demonstrates high levels of innovation, which are crucial for its continued success. The significant differences between this sector and similar ones warrant further investigation, particularly concerning the impact of entry barriers and intellectual property on innovation patterns. Ongoing monitoring of innovation trends is essential to understanding the sector's future development and sustaining its leading role in the Israeli economy.

17 Natan Levy is a PhD student in Computer Science at the Hebrew University of Jerusalem, specializing in safe artificial intelligence. He is an expert in integrating secure software into critical systems.

Retail



Key Characteristics

The retail sector shows significantly lower levels of innovation across most categories in the vertical map compared to the national average. The largest negative gaps are observed in the following categories: innovation ecosystem, management of innovation processes, variety of innovation tools (vectors), and the promotion and embedding of innovation. However, there are categories where the sector's performance is nearly equivalent to the national average, including vision, strategy, and innovation goals, innovation culture, knowledge and data management, and innovation in project management.

In terms of innovation intensity, the sector lags behind the national average across all types of innovation. The most significant weakness is seen in disruptive innovation, which is approximately 27% below the national average, while incremental innovation is only 5% below the average. When analyzing the sources of innovation, the sector shows a noticeable gap in all sources compared to the national average, with the most substantial weakness observed in collaborative innovation.

In terms of innovation applications, the sector generally lags behind the national average, except in product and service innovation. Its most significant weakness is business model innovation, representing a missed opportunity for the retail sector. Given its potential, the sector should be at the forefront of innovations in areas such as customer experience.

Expert Opinion – Innovation in the Retail Sector (RetailTech) / Kobi Yosef[18]

In recent years, the global RetailTech sector has emerged as a significant complement to traditional retail. This field continues to grow rapidly, driven by technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), and augmented and virtual reality (AR/VR). These technologies enhance inventory management, procurement processes, operations, and customer experiences.

In 2024, global investments in RetailTech are projected to reach approximately $350 billion[19]. Additionally, 57% of retailers plan to increase their investments in marketing and information technologies[20].

In Israel, the average investment in innovation within the retail sector for 2024 is lower compared to other industries, with a predominant focus on "incremental innovation." This can be partly attributed to the impact of the "Iron Sword" war, which affected growth and revenues for Israeli retailers, as well as the sector's more traditional nature and slower adoption of new technologies. However, the sector is on a growth trajectory and is expected to recover quickly, expand, and continue investing as the broader economy rebounds.

The retail sector in Israel can be divided into two main segments:

Technology Companies Sector – As with other fields, Israel is a prominent source of solutions and startups in RetailTech. In some cases, Israel is considered a global leader, particularly in areas like smart shopping carts, where approximately half of the global startups in this space are Israeli.

Retail Companies Sector – In Israel, many retailers are adopting innovative technologies and integrating them into their operations, primarily through "incremental innovation" (innovations alongside traditional methods). Notable examples include the integration of self-checkout systems, apps for managing loyalty programs, robotics and automation in operations and deliveries, and the use of Visual AI systems to analyze data from store cameras.

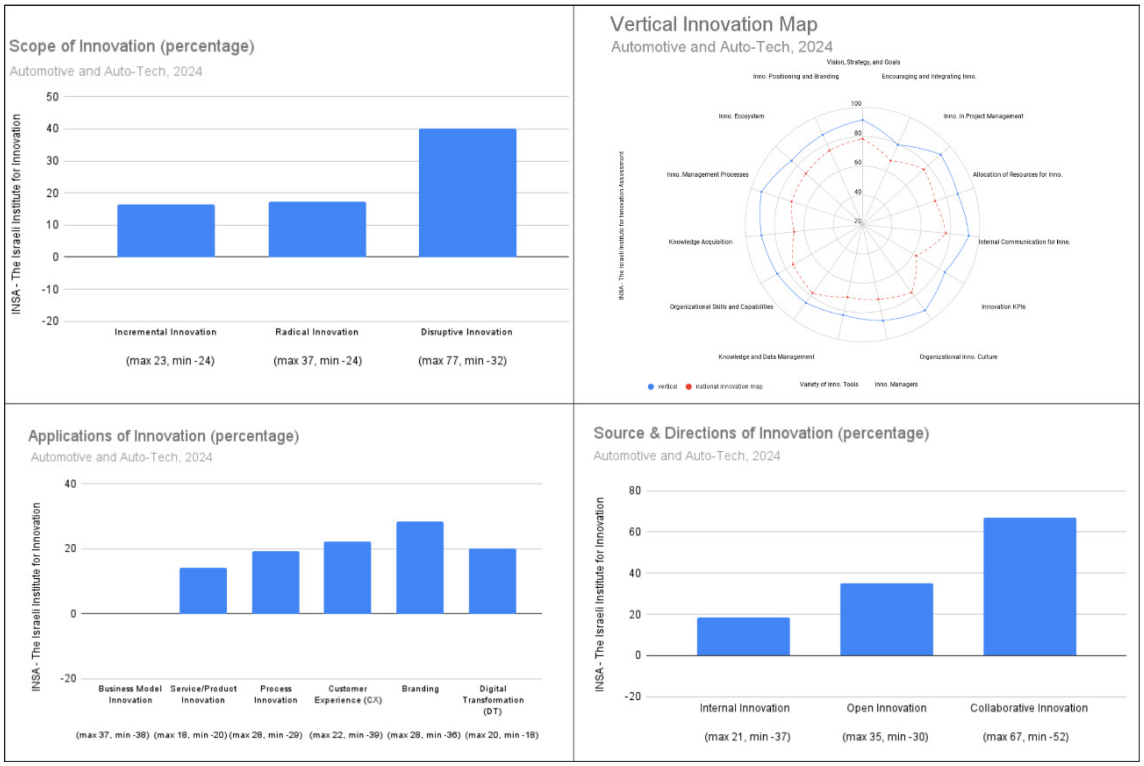
An interesting trend in Israel is that many retailers are also making financial investments in technology companies within the RetailTech field. This enables them to act not only as customers but also as private "venture capital funds," integrating their investments into the core activities of their businesses.

18 Kobi Yosef is the Vice President of Innovation and Technologies at Delek Group Israel. With extensive experience in managing complex technology organizations, Kobi leads cross-organizational innovation initiatives across various sectors and industries.

19 https://www.deloitte.com/global/en/Industries/consumer/analysis/global-retail-outlook.html

20 https://www.gartner.com/en/digital-markets/insights/2024-tech-trends-in-retail

Automotive and Auto-Tech



Key Characteristics

The automotive sector, with a focus on auto-tech, outperforms the national average across all examined categories. It is characterized by a unique combination of high error costs and stringent regulations, alongside a strong demand for innovation. The automotive industry has become a global hub for innovation, incorporating the latest technologies, and requiring companies to adopt advanced innovation management approaches and make significant investments in disruptive innovation.

Considerable resources are allocated to various innovation areas, particularly in defining strategies, setting goals, managing innovation processes, and handling knowledge and data. Automotive companies invest heavily in building a broad ecosystem, driven by the need for extensive collaboration. This collaboration fosters a strong innovation culture within organizations, characterized by high levels of innovation and the adoption of advanced organizational traits.

The global auto-tech sector continues to attract cutting-edge technologies, which in turn increases investment in the Israeli economy, strengthening innovation across multiple levels. Despite the absence of a local automotive industry, Israel's advanced technological capabilities and its synergy with leading automotive nations position the country as a key player in the field. This collaboration contributes to the sector's strength in collaborative innovation, alongside notable achievements in open innovation and high levels of internal organizational innovation.

In terms of innovation applications, the sector holds a relative advantage in most areas, with the exception of business model innovation. This distinction highlights a key difference between Israel's automotive sector and the global market. In Israel, there is significant innovation in business models, yet many disruptive technologies, such as autonomous vehicles, will require adaptations and developments in existing business models—particularly in shared models.

Expert Opinion – Automotive and Auto-Tech / Dr. Tal Cohen and Nadav Yetinson[21]

The automotive and auto-tech sector has undergone dramatic transformations in recent years, driving fundamental shifts in the global automotive industry. These changes, fueled by breakthrough technological developments, open new opportunities for the industry and foster innovative business models.

The innovation metrics presented in this report reflect these processes, showing above-average investment in all types of innovation compared to the national average. The report particularly highlights the significant contribution of disruptive and radical innovations, which challenge the status quo and lead to profound changes in areas such as vehicle operation mechanisms, the driving experience, connectivity, and ownership models.

A major trend driving this transformation is the shift from internal combustion engines to battery-electric vehicles, aimed at reducing the sector's carbon footprint. As one of the leading global polluters, the automotive industry is undergoing electrification, which includes a wide range of innovations—from the development of more efficient batteries and advanced materials to the creation of smart charging infrastructure and intelligent energy management systems to monitor battery health. This shift is not only about reducing emissions but also reshaping the production chain, with innovation occurring at every stage.

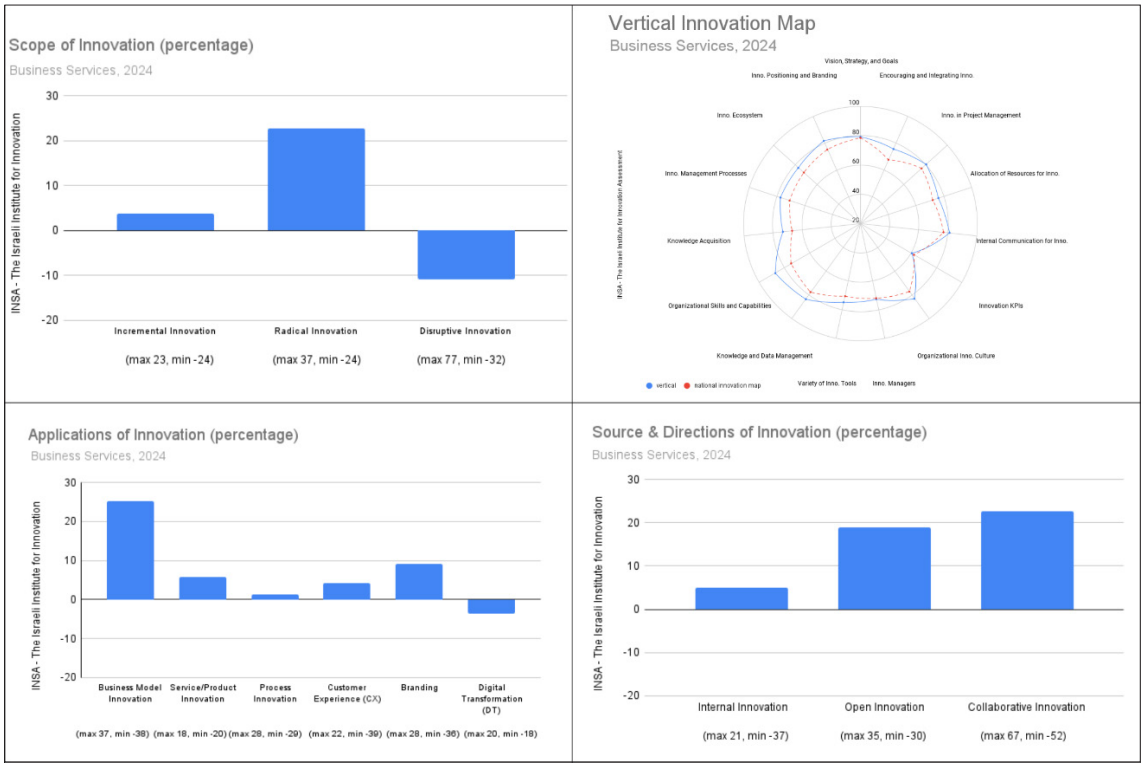
Another significant trend reshaping global transportation is the development of autonomous driving technologies—vehicles that can operate without human intervention. In recent years, the sector has achieved major milestones, with autonomous vehicles now operating in major cities in the U.S. and China, albeit with certain limitations related to speed, location, and weather conditions. The technologies enabling this shift include artificial intelligence, machine learning, advanced radar systems, computer vision, and vehicle-to-vehicle communication.

A third major trend is the emergence of the "connected car"—vehicles that are linked to the internet, enabling a variety of advanced services and functions. Examples include safety systems that communicate with external infrastructure, real-time information and entertainment applications, and remote software monitoring and updates. This connectivity not only supports advanced technologies but also creates opportunities for new business models, such as the shift from private car ownership to the "car-as-a-service" model, which includes shared vehicles and peer-to-peer car-sharing platforms powered by smart digital platforms, automation, and artificial intelligence.

In conclusion, innovation within the automotive and auto-tech sector spans a broad range of fields. The expectation is for continued innovation and the development of new advanced solutions in the coming years.

21 Dr. Tal Cohen is a co-founder of Drive TLV and a General Partner at the investment fund Next Gear Ventures. A serial entrepreneur and investor, Tal has built and supported companies valued at hundreds of millions of dollars over the past several decades. Nadav Yatinson is the Head of Research at Drive TLV, bringing extensive experience in market research and analysis across industries such as automotive, energy, finance, and security.

Business Services



Key Features

This sector encompasses organizations that provide a wide range of business services to support other businesses. Overall, the sector performs above average compared to other industries in most categories, although there are no significant gaps in most areas. The categories where the sector shows relative strength include organizational innovation skills and capabilities, management of innovation processes, knowledge acquisition, and the encouragement and implementation of innovation. However, in three categories, the sector's performance is on par with the national average: vision, strategy, and innovation goals; key performance indicators (KPIs) for innovation; and the presence of innovation officers within organizations.

In terms of innovation strength, the sector excels in radical innovation but shows relative weakness in disruptive innovation, which is typical for a sector primarily focused on providing services. The main sources of innovation in the sector are open innovation and collaborative innovation. When it comes to the application of innovation, the sector demonstrates notable strength in business model innovation—reflecting the core activities of the sector itself—as well as some strength in branding. However, it shows more average performance in product innovation and customer experience. The sector exhibits some weaknesses in digital transformation and process innovation.

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Expert Opinion – Business Services / Dr. Alon Hasgal[22]

The business services market in Israel is diverse and dynamic, characterized by a wide range of suppliers, from international companies to independent service providers, offering a broad spectrum of services. This market holds significant potential to foster innovation in the Israeli economy, particularly for business service companies.

Most business service providers focus on enhancing customer capabilities and tailoring solutions to meet their specific needs. They offer innovative solutions with an emphasis on radical innovation—breakthrough innovations that strengthen the customer's competitiveness. Additionally, these companies assist clients in developing innovative strategies, implementing radical innovations, and encouraging inter-organizational collaboration. This directly contributes to improving the customer's competitive edge in an ever-evolving market. Another key element provided by these business service companies is the investment in developing advanced managerial skills for customer leaders, offering training in various areas as needed.

These organizations, particularly business consulting services, act as catalysts for innovation within the Israeli business ecosystem. They serve a wide range of clients, including businesses, startups, government entities, and academic institutions, while promoting collaboration across these sectors.

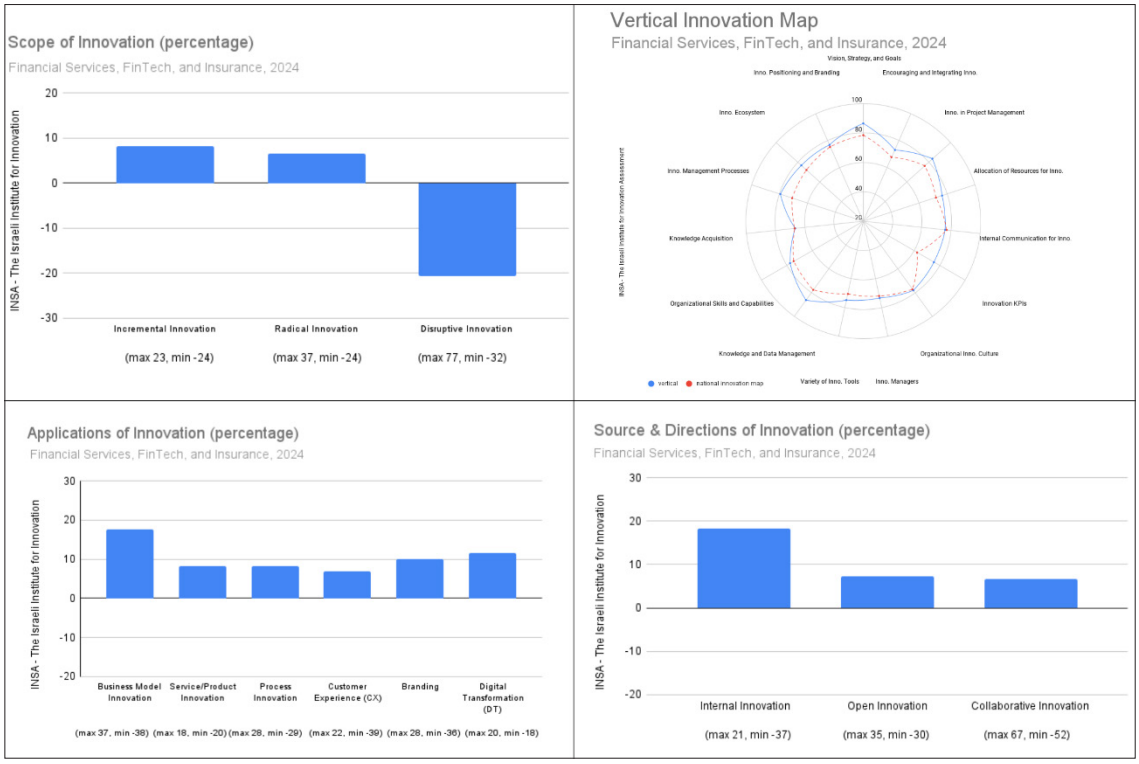
However, despite their success in fostering innovation among clients, there is a notable gap in their ability to implement internal innovation within their own operations. The focus on customer needs may result in a lack of investment in experimenting with innovative technologies and advanced work processes internally, as well as in developing digital transformation capabilities. To remain relevant, these companies must invest in building internal expertise in technology and directly experimenting with innovative solutions.

Summary

The Israeli business services market offers a broad range of tailored solutions that can reshape the perception of innovation within the Israeli economy. These organizations have the potential to drive radical innovation and cross-organizational collaboration. However, their tendency to neglect internal innovation may hinder their ability to fully understand and meet the evolving needs of the Israeli market.

22 Dr. Alon Hasagal is the Head of Undergraduate Programs in Information Systems and Master's Programs in Information Technology Management at the Academic College of Ramat Gan. He is also the Chairman of the Center for Innovation at the Israeli Association for Information Technologies and a member of the International Committee on Policy Data. Previously, Dr. Hasagal served as the Chairman of the Israeli Internet Association and as the CEO of Venola.

Financial Services, FinTech, and Insurance



Key Characteristics

The financial services, fintech, and insurance sectors outperform the national average in innovation across all measured categories. The sector's strengths are particularly evident in vision, strategy, and objectives, as well as in project management innovation, management of innovation processes, and knowledge and data management. However, the sector exhibits weaknesses in knowledge acquisition, fostering innovation, and integrating innovation into organizational culture.

Several categories exhibit performance that is neither particularly strong nor weak, including internal communication, organizational innovation culture, innovation management roles, and the positioning and branding of innovation. Notably, innovation in this sector stands out in the category of Key Performance Indicators (KPIs) for innovation, where it significantly exceeds the national average. This is especially notable considering that KPIs for innovation are typically one of the weakest categories across most sectors. This strength may stem from the sector's familiarity with building financial performance metrics and evaluating adherence to performance indicators, particularly among analysts assessing companies in the capital markets.

In terms of innovation strength, the sector is notably weak in disruptive innovation, showing levels of incremental and radical innovation slightly above the national average. The primary sources of innovation within the sector are internal, with a strong focus on internal innovation. Compared to other sectors, this industry performs relatively well in all innovation applications, particularly in business model innovation. This is not surprising, as a significant portion of the industry is service-oriented, where business model innovation is common. Additionally, this sector is often categorized as high-tech, though sometimes as mid-tech. There is a notable gap in the perceived positioning of organizations within the sector, with many companies striving to present themselves as high-tech, often by integrating new business models and refining various business processes.

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Expert Opinion – Financial Services, Fintech, and Insurance / Itai Green[23]

The sector is experiencing rapid growth, with a strong emphasis on innovation. There is a continued shift towards digital services and widespread adoption of advanced technologies such as artificial intelligence (AI), machine learning for financial data analysis, blockchain, and advanced security technologies for transaction and data management. Digitization and online services are becoming the standard, leading to innovations in customer experience, which are largely driven by changing customer expectations in the modern era. As a result, organizations are increasingly investing in technologies that improve efficiency and enhance the value they offer to customers.

A key emerging trend is the growing number of collaborations between the financial and technology sectors, aimed at developing innovative solutions to enhance customer experience, improve efficiency, and boost profitability. In the past decade, fintech companies have raised over $500 billion globally. It is anticipated that the correction in the market between 2022 and 2023 will push startups to focus more on improving profitability. The sector is projected to grow sixfold by 2030, reaching a market value of $1.5 trillion[24].

The innovation brought by fintech companies is expected to drive a transformation in the financial sector, particularly in banking. For example, 73% of interactions with banks are now conducted digitally[25]. The generative artificial intelligence (GenAI) revolution is expected to further disrupt the financial sector. This technology presents an opportunity valued between $200 billion and $340 billion for the banking sector and is anticipated to impact all aspects of the industry[26].

The Israeli ecosystem is positioning the country at the forefront of global innovation, with a growing number of startups in fields such as AI, machine learning, blockchain, cloud computing, and personalization. Leading organizations, both locally and globally, leverage the Israeli ecosystem to efficiently adopt innovation and address market challenges. While most innovation in the sector has been incremental, generative AI is expected to drive substantial and disruptive innovation on a broad scale.

An increasing number of organizations are recognizing that the most efficient way to innovate—particularly in terms of time to market—is through open innovation and adopting external innovations aligned with their challenges. However, this realization is still in its early stages, and the data in this report does not yet fully reflect this shift.

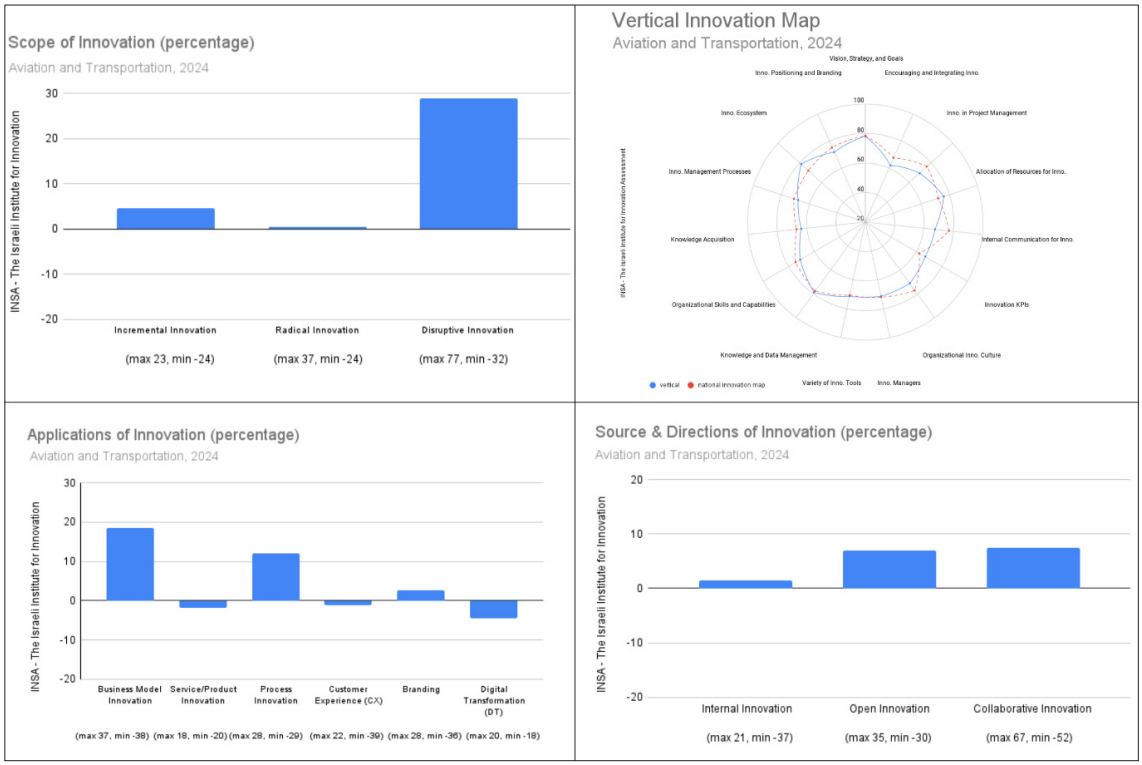
23 Itai Green is an expert in open innovation and the founder of Innovate Israel, a consulting firm that serves leading corporations across sectors such as finance, industry, energy, medicine, agriculture, and tourism. He is also the founder of fintech and travel-tech entrepreneur communities, a sought-after speaker at leading conferences, and a frequent writer and interviewee for major media outlets.

24 BCG, Global Fintech 2023: Reimagining the Future of Finance, May 2023.

25 McKinsey & Company, Fintechs: A new paradigm of growth, October 24, 2023.

26 McKinsey & Company Capturing the full value of generative AI in banking. December 5, 2023.

Aviation and Transportation



Key Characteristics

The sector is largely characterized by traditional industry practices and heavy regulation. Its performance in administrative and methodological areas—such as defining strategy, setting innovation goals and objectives, managing knowledge and data, and allocating resources—remains average. However, similar to the Auto-Tech sector, the industry demonstrates a significant strength in the "Innovation Ecosystem" category, driven by its activities and the need for diverse interfaces to foster innovation.

Despite this, traditional elements persist, such as low investment in encouraging and implementing innovation, as well as relatively weak performance in areas like project management, internal communication, and fostering an organizational culture of innovation. Resource allocation for innovation exists as a result of activities within the ecosystem, but the low scores in innovation management and project management may point to inefficiencies and ineffective innovation practices.

The knowledge acquisition area performs at an average or below-average level, indicating weak knowledge flow. This could be attributed to the size and complexity of organizations, as well as challenges in internal communication.

In terms of innovation strength, the sector is particularly strong in disruptive innovation. When it comes to innovation applications, there is notable strength in business model innovation. This is likely due to the ongoing transformations within the sector, which require frequent adjustments to organizational business models. This also suggests a trend toward promoting innovation as a means of adaptation. The sources of innovation are above average, with a strong emphasis on open or collaborative innovation, often in cooperation with industries such as Auto-Tech and other technological sectors.

Expert Opinion – Aviation and Transportation / Itai Green[27]

The aviation and transportation sectors have traditionally seen relatively low investment in innovation, but this trend is shifting, particularly following the COVID-19 pandemic, which underscored the urgent need for technological advancement, as companies that embraced advanced technologies were more successful in managing challenges. Innovations such as autonomous transportation, digital solutions, and artificial intelligence have become essential in navigating uncertain conditions. Israeli startups have demonstrated remarkable flexibility and adaptability during this time. Furthermore, the rise of green and shared transportation has gained significant momentum in recent years. Companies are increasingly investing in solutions to enhance customer experience in both air travel and public transportation, where innovation adds considerable value. The insurance sector, too, is introducing key innovations for travelers, such as embedded travel insurance.

The industry places a strong emphasis on disruptive innovation, with a clear inclination toward open and collaborative approaches that foster value creation for customers while driving advancements in processes and business models. According to a McKinsey survey[28], 30% of respondents plan to increase their use of micro-mobility solutions, 46% are considering replacing traditional vehicles with alternative transportation options, and 70% are open to using shared autonomous vehicles. In light of the ongoing challenges related to traffic congestion, climate change, safety, and urbanization[29], these findings suggest that the sector is undergoing a transformation, with disruptive innovation playing a pivotal role.

Industry leaders must recognize that Israel is the fourth-largest global hub for innovation in transportation, with a wealth of expertise, particularly in software solutions, that is available and accessible[30]. Collaborating with Israeli startups offers large companies the opportunity to gain a competitive edge by tapping into the country's advanced technological ecosystem and its thriving innovation infrastructure.

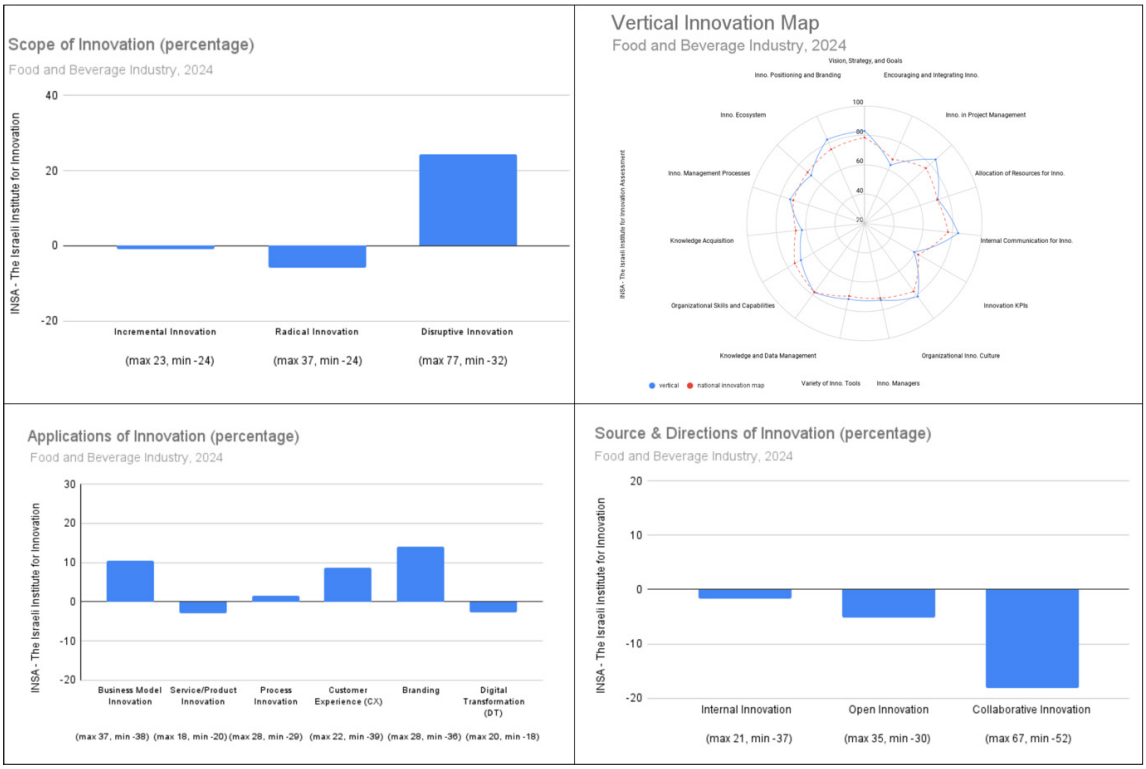
27 Itai Green is an expert in open innovation and the founder of Innovate Israel, a consulting firm that serves leading corporations across sectors such as finance, industry, energy, medicine, agriculture, and tourism. He is also the founder of fintech and travel-tech entrepreneur communities, a sought-after speaker at leading conferences, and a frequent writer and interviewee for major media outlets.

28 McKinsey. The future of mobility. April 19, 2023.

29 BCG. Shaping the Future of Mobility. February 27, 2024.

30 McKinsey. Mobility tech as a source of innovation: Israel's smart mobility start-up ecosystem. December 5, 2023.

Food and Beverage Industry



Key Characteristics

The level of innovation in the industry is generally average across most categories, with notable strengths in certain areas and weaknesses in others. The three key areas in which the industry excels are project management innovation, internal communication for innovation, and the positioning and branding of innovation.

However, there are several areas where the industry falls short, including knowledge and skill acquisition, organizational capabilities, and the fostering and embedding of innovation. Like other sectors in the economy, there is also a notable weakness in defining and utilizing key performance indicators (KPIs) for innovation.

The industry exhibits a strong dominance in disruptive innovation, particularly in food tech (foodtech). However, it shows relative weakness in collaborative innovation. In terms of specific innovation applications, there is strength in business models, customer experience, and branding. The emphasis on positioning towards the end customer makes innovation in these areas particularly significant. This focus on customer experience and branding is complemented by innovation in business models.

It is surprising that the industry exhibits weaknesses in both product and process innovation, especially considering the critical role of production processes in this sector. This may indicate an interesting dynamic in which the industry is attempting to compensate for a lack of innovation in one area with innovation in another. Specifically, there seems to be an effort to offset challenges in advancing product and process innovation by focusing on branding innovation. This challenge is particularly evident in consumer products, where changes are often minimal over time. As a result, companies are increasingly relying on advanced branding tools to attract and retain customer attention, given the limited scope for significant product innovation.

Expert Opinion – Food and Beverage Industry / Gofna Lis-Rubin[31]

The food industry, both globally and locally, has been undergoing significant transformation in recent years, driven by several key trends. Following the COVID-19 pandemic, online food consumption has surged, including both the ordering of prepared meals and food products from dedicated platforms. According to global projections, the monetary value of online food consumption is expected to reach $1.2 trillion by 2024, with a continued growth rate of over 9%, reaching $1.85 trillion by 2029[32]. This rapid growth aligns with the findings in the report highlighting the industry's strength in customer experience innovation. Additionally, the industry's historical dominance in advertising and branding explains the strength in branding innovation noted in the findings.

Another prominent trend is the rise of food tech, which focuses on developing new manufacturing technologies and products aimed at reducing the food industry's reliance on animal-derived ingredients, thereby mitigating its environmental impact. Many startups, both in Israel and globally, are emerging in three primary areas of food tech:

1. **Plant-Based Protein Development**: Innovations in raw materials, technologies, and new products based on plant proteins.
2. **Precision Fermentation**: Technologies to create new ingredients, primarily proteins, that are identical or similar to those derived from animals.
3. **Cultured Meat**: Developing technologies to produce meat components in laboratory or factory settings.

Startups and established food companies are actively working on advancements in these areas. While there was a surge in plant-based food consumption between 2020 and 2021, the trend has moderated. However, it is expected to continue growing[33]. The expansion of the global food tech ecosystem, including Israel's strong presence, is helping to modernize the industry by focusing on disruptive technologies that will shape its future. The synergy between the mature industry and numerous startups requires continuous business model innovation, as highlighted in the report.

A noteworthy new trend in 2024 is the rise of GLP-1-based weight-loss drugs, produced by companies such as Novo Nordisk and Eli Lilly. These drugs are expected to achieve a market entry rate of approximately 9% in the U.S. by 2030[34]. This trend is already influencing food consumption patterns and is expected to have a lasting impact on global food markets. It is also driving innovation in the development of food products designed to complement weight-loss drug consumption.

Additionally, technological innovation continues to play a pivotal role in the food industry, with substantial advancements in areas such as digitization, automation, artificial intelligence, and machine learning. Both startups and established food companies are focusing on developing, promoting, and adopting these advanced technologies, transforming the industry from traditional practices to a smart, data-driven, and more efficient sector. These innovations not only enhance production capabilities but also contribute to sustainability efforts across the food industry.

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31 Gofna Lis-Rubin is the CEO of Alfred's FoodTech. She has held various roles in the food industry, including Development Manager for Nestlé Ice Cream in Israel, Manager of the Nestlé Development Center in Sderot, Manager of the Cereal Development Department at Nestlé in Switzerland, and Manager of the Sabra Salads Factory. From 2019 to 2023, Gofna served as the Open Innovation Manager for Nestlé in Israel.

32 https://www.statista.com/outlook/emo/online-food-delivery/worldwide.

33 https://www.globenewswire.com/en/news-release/2023/04/25/2654175/0/en/Plant-based-Food-Market-Size-More-Than-Doubles-to-Touch-USD-22-3-Billion-with-the-CAGR-of-11-82-by-2029-BlueWeave-Consulting.html.

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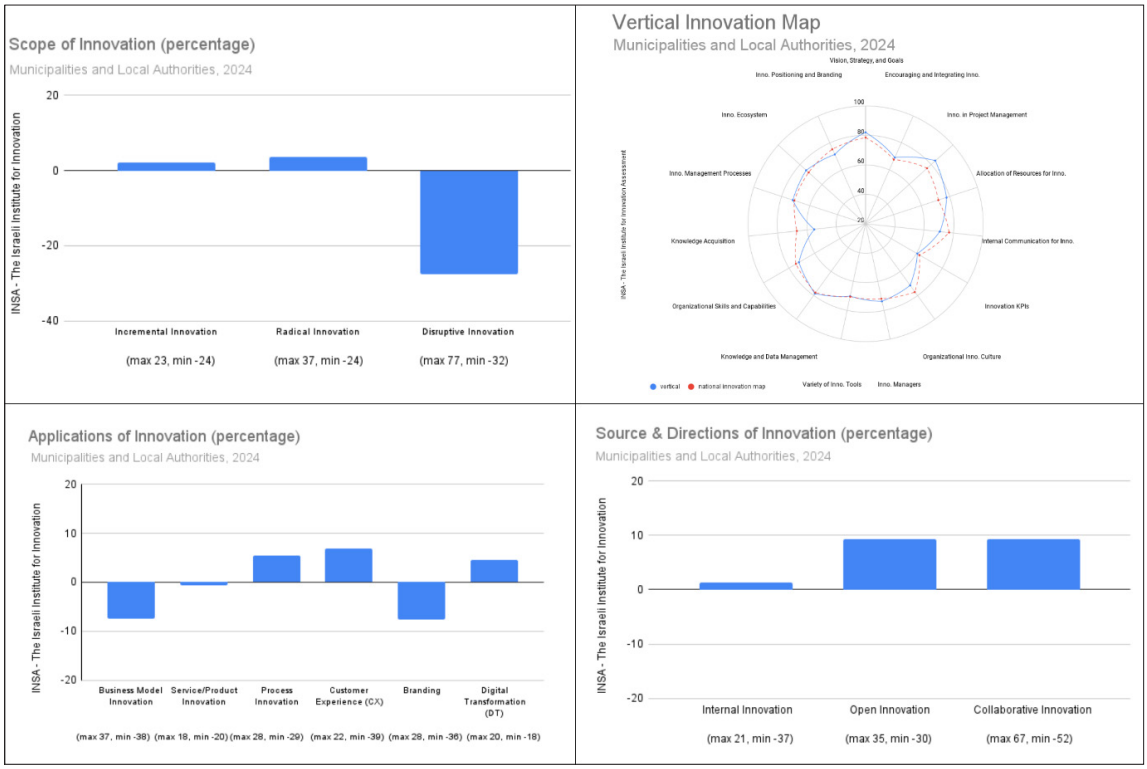
Municipalities and Local Authorities



Key Characteristics

The municipalities and local authorities sector exhibits an innovation level that is comparable to the industry average and significantly higher than that of public institutions. Three areas stand out in terms of performance: the sector outperforms the industry average in project management and resource allocation for innovation but faces significant challenges in knowledge acquisition.

As expected in a sector that does not prioritize breakthrough innovation, there is a notable weakness in disruptive innovation. However, the sector demonstrates relative strength in open and collaborative innovation, reflecting its role as a hub of activity and a leader within the ecosystem. Municipalities encourage entrepreneurial communities and participate in broad initiatives such as smart cities. Investment in digital transformation, customer experience innovation, and process innovation is also evident, which is unsurprising given the sector's focus on providing services to residents, who are also its voters.

In contrast, the sector lags in branding innovation and business model innovation. While the weakness in business model innovation is expected, the lack of innovation in branding—despite strengths in customer service—indicates significant potential for improvement. Addressing this gap could yield substantial value for municipalities.

It is noteworthy that, although the sector shares many characteristics with public institutions, it exhibits a higher level of innovation. This disparity may stem from the fact that local authorities are directly elected, whereas many public institutions are not subject to elections. As a result, municipalities have a greater dependence on resident/voter satisfaction, which drives their innovation efforts.

Overall, the local authorities sector demonstrates higher levels of both incremental and radical innovation compared to public institutions, with an emphasis on open and collaborative innovation. The sector also distinguishes itself in the application of innovation, particularly in customer experience and process innovation.

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Expert Opinion – Municipalities and Local Authorities / Rita Golstein Galperin[35]

The analysis of the findings paints a nuanced and complex picture of innovation in municipalities and local authorities. Surprisingly, despite the traditionally bureaucratic nature of these entities, the overall level of innovation in this sector aligns with the industry average. This suggests significant efforts to adopt innovative approaches within the local public sector, while also highlighting a high degree of variability within the sector itself.

A closer examination reveals several key trends: the sector excels in project management and resource allocation for innovation, signaling a growing awareness of the importance of innovation and a commitment to investing in it. However, there is a notable weakness in acquiring external knowledge, which could limit the ability to integrate new ideas and technologies from the business or academic sectors. Another notable finding is the prominence of open and collaborative innovation, contrasted with a relative weakness in disruptive innovation. This trend reflects the unique nature of local governance, which prioritizes transparency and public engagement but faces constraints in implementing radical changes due to regulatory obligations and the need for public accountability.

The sector focuses primarily on digital transformation, customer experience innovation, and process innovation, aligning with global trends such as "smart cities" and efforts to improve service delivery to residents. This focus underscores the understanding that enhancing service accessibility is key to success in local government.

However, local authorities face specific barriers and challenges in their pursuit of innovation that differ from those in other sectors. Their hierarchical and bureaucratic structures, combined with the demand for high public accountability, make it difficult to rapidly implement innovative ideas. Unlike business companies, which benefit from greater flexibility, local authorities are constrained by strict regulations, budgetary limitations, and complex procurement processes. Public tenders slow the ability to engage with innovative suppliers, and the limited incentive system in public service hampers employee motivation to innovate. Overcoming these challenges will require local authorities to devise unique strategies that balance innovation with the inherent limitations of the public sector.

Compared to business sectors, local authorities have distinct innovation characteristics. While businesses focus on profitability and competitive advantage, local authorities prioritize improving service delivery and addressing social and environmental challenges. Innovation in regulation, role perception, and policy are central to the local public sector, setting it apart from other industries.

On a global scale, urban innovation is gaining momentum. According to OECD data, over 60% of the world's largest cities have established dedicated innovation units in the last five years. Additionally, the World Bank reports that global investment in urban innovation increased by 30% between 2018 and 2022, reaching $23 billion in 2022. A further trend is the growing collaboration between local authorities and technology companies. A 2023 Deloitte survey revealed that 75% of leading cities worldwide reported at least one significant partnership with a technology company in the past two years.

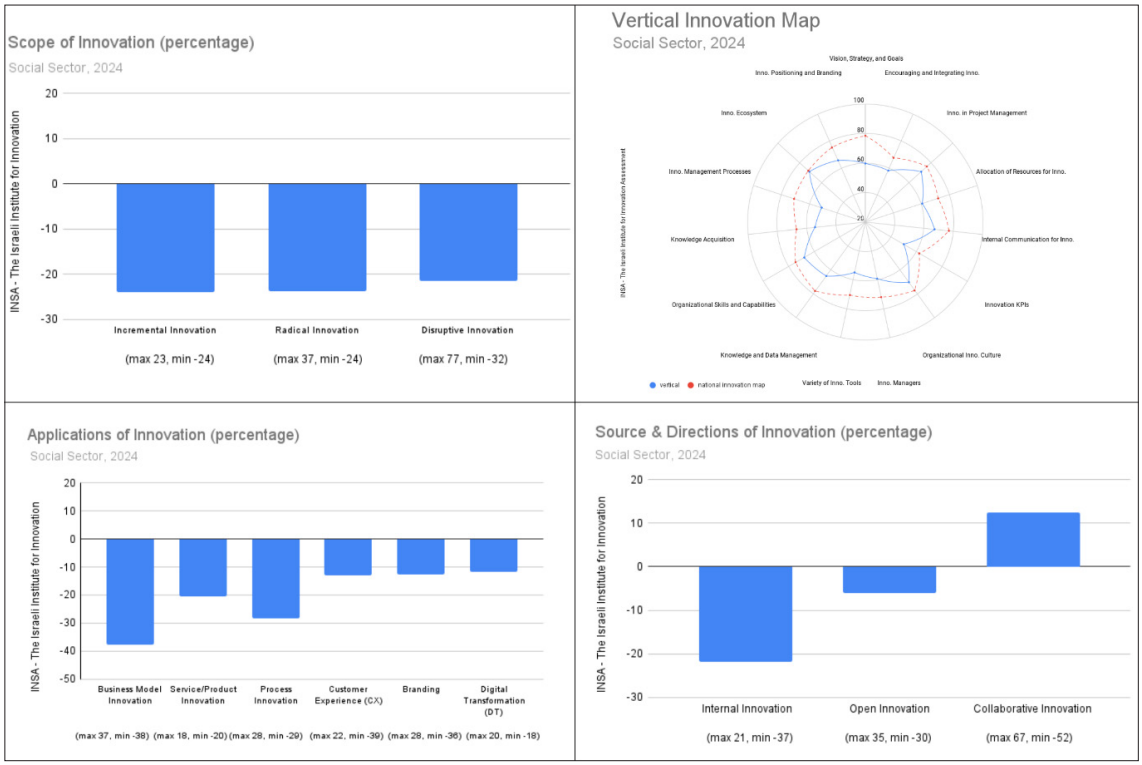
Summary

The findings indicate that Israel's municipalities and local authorities sector is making promising strides in innovation, particularly in digital transformation and customer experience. However, there is room for improvement in disruptive innovation and external knowledge acquisition. Initiatives such as the Arena program, the Bloomberg-Sagol training center, and the Local Government Innovation Forum have made innovation more accessible to municipalities.

To further promote innovation in the sector, the following actions are recommended: increasing collaboration with academia and technology companies, developing programs that encourage disruptive innovation while managing associated risks, establishing dedicated innovation units within local authorities, increasing flexible innovation budgets, investing in long-term innovative projects, and fostering an organizational culture that encourages entrepreneurship and innovation.

35 Attorney Rita Golstein-Galperin is a researcher, lecturer, and consultant specializing in innovation and impact. She works with the Israel Democracy Institute and the University of Haifa.

Social Sector



Key Characteristics

The social sector ranks low on the innovation index, with an average score of 61.8. The largest gaps compared to the national average are found in the categories of vision, strategy, and innovation goals, which help explain the overall weakness in the sector's score. Additionally, there are significant shortcomings in the areas of innovation vectors and management of innovation processes.

On the other hand, the gap is smaller in categories such as innovation ecosystem, innovation culture, organizational innovation skills and capabilities, and innovation in project management. The overall picture suggests that while the social sector has a developed organizational culture and strong capabilities, it adopts a primarily non-business-oriented approach. This is reflected in its weaknesses in defining innovation vision, strategy, and goals, as well as in managing innovation processes.

Interestingly, the social sector scores significantly lower than the municipal and local authorities' sector in most categories, despite neither being business entities. In contrast, the sector's scores are similar to those of the public institutions sector. The key differences between the social sector and the public institutions sector lie in collaborative innovation and branding innovation, where the social sector shows relatively stronger performance.

In terms of innovation strength, the social sector demonstrates considerable weaknesses across all areas, with incremental innovation receiving the lowest score among all sectors. Regarding sources of innovation, the sector exhibits a major weakness in internal organizational innovation, ranking the lowest among all sectors. This highlights a significant lack of internal mechanisms and methodologies for driving innovation. At the same time, there is a dominance of collaborative innovation, reflecting the sector's general emphasis on collaboration, as seen in its innovation ecosystem management. This category receives the highest score in the sector, indicating a strong collaborative approach, but the overall data remains relatively low,

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suggesting that the sector's innovation potential is not being fully realized.

When it comes to innovation applications, the social sector exhibits widespread and significant weaknesses, with the lowest scores across business models, processes, and product/service innovations compared to other sectors. This finding aligns with the sector's less business-oriented approach and its weaknesses in structured organizational processes.

Expert Opinion – Social Sector/Sharona Shir Zbludovsky[36]

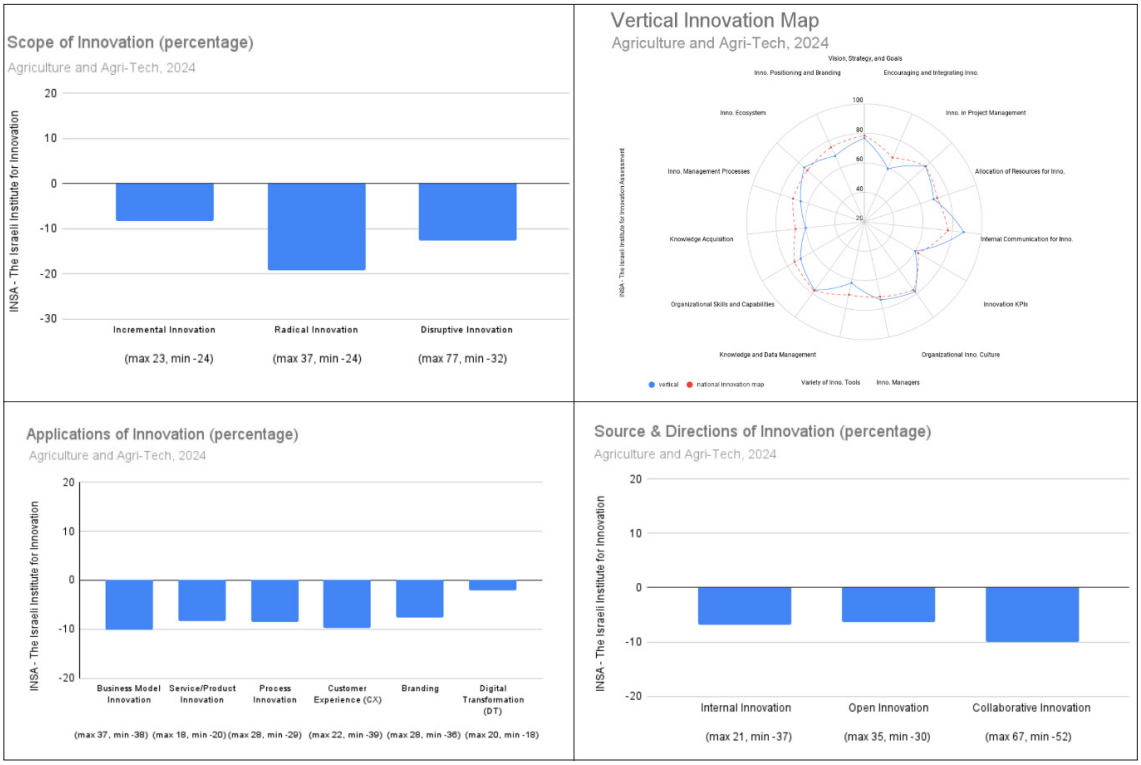
In 2024, the social sector is focused on enhancing the impact and efficiency of organizations. Key developments include the adoption of digital tools for resource mobilization, marketing, and data-driven decision-making, responding to donors' increasing demand for transparency and accountability. Collaboration between sectors has also risen, creating new funding sources, expertise, and networks that support the creation of independent income through innovative models that blend social and commercial goals. These models incorporate hybrid work approaches that were previously uncommon.

In 2024, collaboration became a central strategic tool, particularly for community-based organizations that serve as trusted entities in an increasingly polarized world. Capabilities such as integrative thinking—combining intuition, logic, imagination, and creativity—have significantly contributed to the development of effective action strategies. Social sector organizations are increasingly relying on experts and consultants and are expected to gradually adopt AI-based tools to enhance the scope and effectiveness of their activities. The trends of digital marketing and digital resource mobilization will continue to evolve, offering cost-effective solutions and broader engagement. Additionally, crowdfunding and data-driven management will remain key drivers of trust, differentiation, flexibility, and innovation, mirroring strategies seen in the private sector. Tools like storytelling and targeted marketing are becoming essential, enabling organizations to demonstrate high return on investment (ROI), especially in the face of economic challenges such as the ongoing war and rising living costs.

However, the report findings highlight an urgent need to strengthen the organizational culture to foster creativity and innovation within the social sector. Despite benefiting from a rich ecosystem and well-developed collaboration networks, there are significant gaps in strategic management and innovation branding. The sector's average innovation score of 61.8% underscores substantial weaknesses in areas such as disruptive and radical innovation, as well as in innovation applications related to digital transformation and customer experience. To successfully achieve their vision, social organizations must bridge the gap between strategy and execution by investing in knowledge acquisition, embedding it within their operations, and applying it in practice. Strengthening these areas will enable the social sector to provide sustainable solutions that create long-term impact.

36 Sharona Shir Zabludovsky has over a decade of experience in the third sector, specializing in public policy, the Middle East, and Israel-US relations, including diaspora relations. She holds a BA in Communications from the Open University, an MA in Public Policy from Tel Aviv University, and an MA from the Ruderman Program at the University of Haifa.

Agriculture and Agri-Tech



Key Characteristics

The agriculture and agri-tech sector is predominantly composed of traditional industries. Despite its tendency to adopt advanced technological solutions, it remains characterized by a medium to low level of innovation. There is considerable variability across different categories, highlighting a significant need for improvement in management methodologies. In most categories, the level of innovation is either on par with or below the national average, with the exception of internal organizational communication, where the sector scores notably higher than the national average.

Key strengths include internal organizational communication, organizational innovation culture, the innovation ecosystem, vision, and strategy. However, there are significant weaknesses in promoting and embedding innovation, knowledge acquisition, and setting KPIs for innovation—areas that reflect a nationwide challenge.

In terms of innovation strength, the sector shows relative weaknesses at all levels, with the most prominent gap appearing in radical innovation. Furthermore, the sources of innovation indicate weaknesses across the board. When it comes to innovation applications, there is a significant deficiency in all areas, except for digital transformation, where the sector's score is close to the national average.

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Expert Opinion – Agri-Tech, Food Security, and a Healthy Environment / Dr. Yaron Dekel[37]

The global agricultural and agri-tech sector is undergoing a continuous process of digitization and technological innovation. Market trends indicate a rise in the adoption of smart technologies for agricultural management, including sensors, water management systems, and automation. Additionally, there is an increasing use of artificial intelligence and satellite data to monitor and manage crops. Sustainable agriculture is also gaining momentum, with green technologies being used to protect the environment and reduce pollution.

Experts in the agriculture and agri-tech fields emphasize the need for investment in smart technologies to improve efficiency and sustainability. They stress the importance of collaboration between the agricultural and technological sectors to develop innovative solutions that will enhance agricultural productivity and efficiency. Furthermore, experts highlight the crucial need to transition to sustainable agriculture, using green technologies to safeguard the environment.

Global Trends in the Field: Digital Agriculture, Artificial Intelligence, Decision-Making Based on Big Data Analysis, Sustainable Agriculture, and Urban Agriculture.

In contrast to these trends, the report reveals that Israel's agriculture and agri-tech sector faces challenges due to low investment in digital transformation. Additionally, Israel contends with unique geographical constraints, such as its location surrounded by hostile neighbors, which limits secure land-based transportation for goods. Over 90% of carbohydrates (grains) and proteins (animal-based meat) are imported by sea, making food security highly dependent on external factors, such as potential disruptions in exports due to security, political, or biological reasons (e.g., pathogens). Emergency food reserves are only sufficient for three months, and local production accounts for a mere 7% of consumption. Furthermore, agricultural land is shrinking annually due to urbanization, and traditional agriculture is becoming economically unfeasible due to water shortages and resource depletion. The average age of farmers is 64, and younger generations are not continuing in the profession. Additionally, outdated land laws grant each resident of an agricultural settlement 50 dunams of land without requiring an agricultural implementation plan. This amount of land is insufficient to support a family, and many lease it to larger farmers, resulting in a lack of renewal or diversification in agriculture..

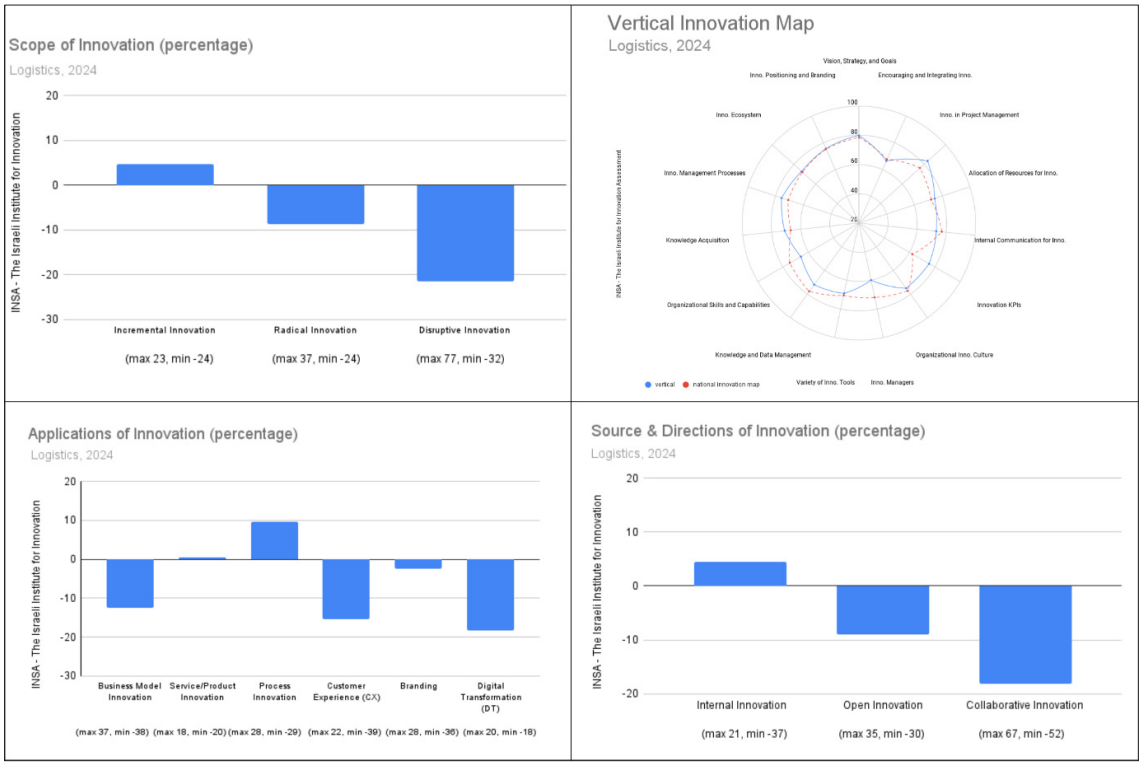
High-Tech Agriculture (Agri-Tech) is driven by advanced research across various fields, including plant sciences, genetics, microorganisms, water, soil, engineering, electronics, AI, Big Data, and energy storage. In Israel, innovation investment in this sector is 10-20% lower than in other industries across most categories, as highlighted by the report. This low score is particularly evident in the categories of radical and disruptive innovation, which have the potential to drive profound changes in the sector. One relevant example is the use of bioreactors to produce food components. Research into designing controlled bioreactors, where food components such as carbohydrates, proteins, vitamins, and food colorants are produced from microorganisms (e.g., bacteria, algae, fungi), could lead to independent food production, reducing reliance on imports. Bioreactor farms could be established underground, allowing production to continue even during wartime.

To realize this vision, substantial investment in research and development is essential to preserve and promote both enhancing and radical innovation. Another promising example involves the development of indoor farming in controlled environments, where temperature, humidity, lighting, and water can be managed precisely. This method would reduce water use and pesticide reliance, and be less sensitive to climate fluctuations, thus eliminating the need for extensive land use. These technologies could be scaled down to food stores or even private apartments, where food could be grown for personal consumption. Moreover, the production of seeds through traditional breeding methods, alongside genome editing, will support the development of new agricultural practices across all sectors and provide high-quality seed products.

On the regulatory front, updating land laws to allow new families to submit financially supported agricultural plans to professional committees for differential land allocation would help rejuvenate the sector. This approach would bring fresh talent into agriculture, reduce the size of agricultural areas, and restore natural spaces for recreation, all while ensuring the country's food security.

37 Dr. Yaron Dekel is the Scientific Director and Head of the Genetics Laboratory at the Shamir Research Institute, as well as a lecturer at the University of Haifa.

Logistics



Key Characteristics

The logistics sector's overall innovation performance aligns closely with the national average across most categories. However, it demonstrates relative strength in four key areas: project management innovation, management of innovation processes, innovation KPIs, and, to a lesser extent, knowledge acquisition. In contrast, its main weaknesses lie in organizational innovation management, organizational innovation skills and capabilities, and knowledge and data management.

The significant discrepancies between strengths and weaknesses, compared to the national average, suggest that the sector that focuses on specific aspects of innovation while often neglecting a more holistic approach to innovation management. This results in a necessity-driven management style that lacks a strategic innovation plan and remains somewhat disconnected from broader innovation principles guiding the economy. The impact of this selective approach is evident in other forms of innovation within the sector.

Regarding innovation strength, the logistics sector demonstrates a notable weakness in disruptive innovation and a moderate weakness in radical innovation. It aligns with the national average only in the area of incremental innovation. When it comes to innovation sources, there is a considerable gap in collaborative innovation, along with some weakness in open innovation. In terms of innovation applications, the sector lags behind, showing significant weaknesses in digital transformation (the lowest among sectors), customer experience innovation, and business model innovation. However, there is some strength in process innovation, which is aligned with the sector's operational focus.

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Expert Opinion – Logistics / Hanan Carmeli[38]

The logistics sector, particularly cargo logistics (including ports, shipping, rail, truck fleets, cargo terminals, and logistics service providers), has experienced limited innovation over the past several decades compared to other sectors. This can be attributed to several factors, including the sector's conservatism, the dominance of established international companies—many of which are privately owned—the reluctance to share information for the collective benefit of market stakeholders, and, in some cases, powerful labor unions with conflicting interests. These factors are reflected in the report's findings, particularly in the analysis of innovation strength, which highlights the lack of disruptive innovation and limited radical innovation, as well as the sector's reliance primarily on internal innovation.

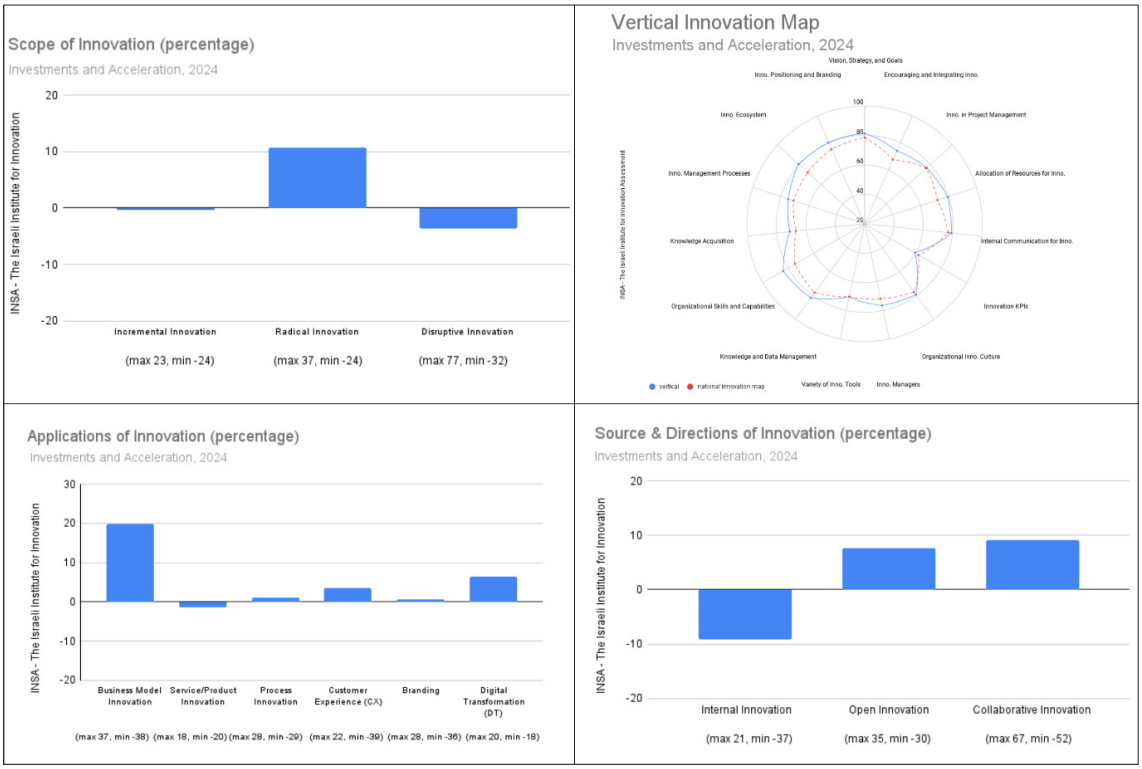
However, this trend has begun to shift in recent years, and the move toward greater innovation is expected to intensify in the future. Key factors driving and fostering this change include:

- **Organizational innovation trends in neighboring sectors** such as transportation, automotive, auto-tech, banking, telecommunications, computing, and IT. Additionally, many employees in the logistics sector have been exposed to "the spirit of innovation" through their personal experiences in industries like social media, banking, and automotive, leading to growing expectations for similar innovations to be implemented within their workplace.
- **The realization that innovation not only contributes to efficiency (cost reduction) but also drives revenue growth.** By adopting new products (often digital) alongside traditional offerings, companies can target the same customer base—or expand it—ultimately enhancing their bottom line. This business insight is helping to spur innovation activities and creating a dynamic environment for mergers and acquisitions in relevant innovation fields..
- **Active discourse and emerging regulations around carbon emissions and the transition to green energy.** These trends are prompting radical and even disruptive thinking, challenging long-standing conventions. For example, the shift to electric energy (such as electric trucks) presents ample opportunities for process, product, and branding innovation, as it enables companies to position themselves and build infrastructure that was previously nonexistent.
- **Leadership changes in large international private companies**, where third- and fourth-generation founders are taking on senior management roles. These leaders are informed about current trends and are eager to move their companies forward in these areas.

Openness to innovation within the logistics sector has become more apparent in recent years. Almost every significant entity in the industry has embraced organizational innovation in some form. Leading international companies have established technological accelerators, corporate investment funds, and investments in specialized venture capital funds. Some companies have also created new roles, such as Chief Innovation Officer and Digital Technologies Manager, and have organized specialized innovation conferences. These initiatives are already showing positive results in areas such as vision, strategy, innovation goals, project management innovation, management of innovation processes, and knowledge acquisition, as reflected in the report's findings. These processes are expected to continue and intensify, particularly as radical and disruptive innovation processes gain momentum, and the sector becomes increasingly open to collaborative and open innovation.

38 Hanan Carmeli has extensive managerial experience in leading high-tech companies that developed solutions for logistics, infrastructure, and telecommunications. He previously served as Deputy Chief Scientist at the Ministry of Economy and as a representative for a prominent American private equity fund. Currently, he is the Managing Partner and Founder of the venture capital fund theDOCK, which focuses on innovation in the fields of shipping, ports, and cargo logistics.

Investments and Acceleration



Key Characteristics

The innovation performance in the industry is generally on par with, or slightly above, the national average. The sector shows notable strengths in fostering and implementing innovation, allocating resources for innovation, managing knowledge and data, enhancing organizational innovation skills and capabilities, and cultivating a robust innovation ecosystem.

In terms of innovation intensity, the industry stands out for its emphasis on radical innovation, while disruptive and incremental innovation levels align closely with the national average.

When examining sources of innovation, the industry shows relative weakness in internal innovation but demonstrates strength in open and collaborative innovation. Organizations within the sector tend to prioritize collaboration and have developed a rich, expansive ecosystem, yet they often neglect internal organizational methodology and management.

In terms of innovation applications, business model innovation takes the lead, reflecting the service-oriented nature of the industry, where the business model plays a critical role. The sector also shows some strength in digital transformation. For other types of innovation applications, the industry is generally aligned with the national average.

Expert Opinion – Investments and Acceleration / Chen Shamilo[39]

Assessing the investment and acceleration industry through the innovation metrics outlined in this report is in itself an innovative approach, as this industry plays a crucial role in the entrepreneurial ecosystem. Its primary objective is to foster innovative, often disruptive, technological solutions to significant problems and needs. According to the report's findings, the industry excels in encouraging and implementing innovation, allocating resources effectively, and nurturing the innovation ecosystem—key elements that are vital for supporting young, innovative companies.

The dominance of radical innovation highlights the industry's willingness to take risks and support groundbreaking ideas, a core characteristic of venture capital. However, the relative weakness in internal innovation raises concerns about the sector's ability to renew itself and adapt to market changes. For example, the proliferation of acceleration programs in Israel necessitates a reevaluation of operational models, particularly the balance between delivering theoretical knowledge and offering practical mentoring and consultancy hours to entrepreneurs. This challenge signals the beginning of a trend toward "personalized acceleration" and a shift away from content that can be consumed asynchronously, focusing more on tailored, individualized support.

The sector's relative strength in business model innovation is noteworthy, reflecting the need to adapt investment and acceleration strategies to an evolving market. "This trend is global, as venture capital funds and acceleration programs increasingly explore new models to generate value, such as 'Venture Building' and combining equity investments with extensive strategic support. Additionally, there is a growing emphasis on adding value for entrepreneurs, known as Value Creation, particularly through high-quality connections to pilots or Design Partners—an essential form of support for young companies.

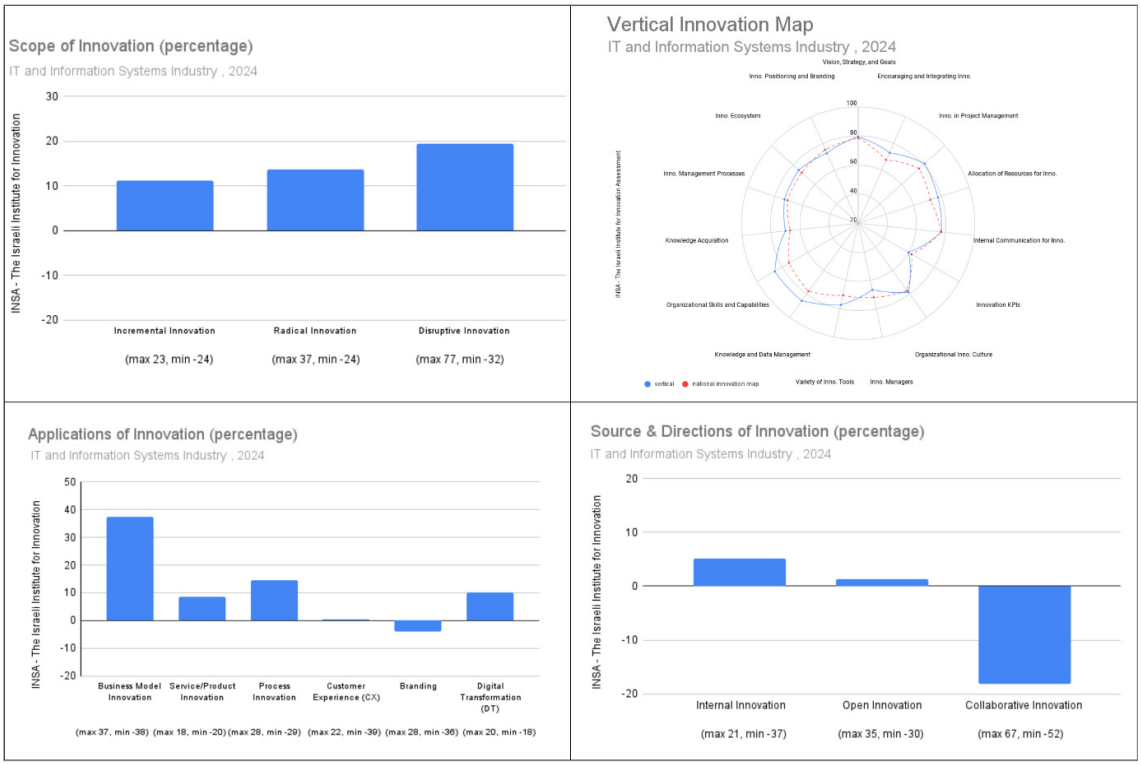
The industry's strength in open and collaborative innovation reflects a positive trend of cooperation and leveraging external knowledge, crucial in an era marked by technological complexity and heightened competitiveness. In Israel, spaces that foster collaboration among stakeholders, such as communities for acceleration program managers, are already in place.

Looking ahead, the integration of artificial intelligence-based technologies and advanced data analytics is expected to play an increasingly significant role in enhancing decision-making processes for investments or program acceptance, as well as supporting portfolio companies. Moreover, the development of advanced technological tools will likely accompany entrepreneurs throughout the ideation and acceleration processes, greatly enriching the essential toolkit available in this field.

In conclusion, the investment and acceleration industry in Israel holds considerable potential for innovation. However, it must continue evolving to maintain its leadership position in the global arena and address emerging challenges.

39 Chen Shmilo is the CEO of the 8200 Alumni Association (S.M.2), a graduate of both the unit and the Prime Minister's Office. He is also a founding partner of the 8200 Global program, which assists early-stage startups in preparing for entry into the U.S. market. Additionally, Chen is a co-founder of the 8200 Angels investment club. In the past, he managed the 8200 Impact accelerator program, the post-acceleration program Calling2Scale in collaboration with EIT Israel Hub for Israeli and European startups, and other entrepreneurship initiatives.

IT and Information Systems Industry



Key Characteristics

The innovation score of the industry is slightly above the national average, with notable strengths in the areas of knowledge and data management, organizational innovation skills and capabilities, and innovation vectors. The only category in which the industry lags behind the national average is the presence of innovation managers within organizations.

In terms of innovation intensity, the industry performs above average across all types, with a particular dominance in disruptive innovation. However, the industry is notably weak in collaborative innovation.

Regarding innovation applications, the industry stands out for its strong focus on business model innovation, leading all sectors in the economy in this area. Additionally, the industry demonstrates significant strength in process innovation. There is also relative strength in digital transformation and product innovation. The emphasis on business model and disruptive innovation highlights the industry's need to pursue advanced, groundbreaking solutions and explore new activity hubs.

Expert Opinion – Information Systems / Dr. Shaul Levi[40]

The technological landscape in this sector is dynamic, much like innovation and the changing market, requiring rapid execution (short time-to-market), constant readiness for change, and a focus on progress over perfection. As a result, evaluating the IT sector using the innovation metrics outlined in this report is crucial.

The sector's dominance in knowledge and data management reflects the growing recognition over the past decade that data is a critical asset for driving organizational innovation. This is achieved through the development of advanced analytics solutions, with an emphasis on machine learning and, in the near future, generative AI (Gen AI). However, data management has become increasingly complex due to challenges such as volume, variety, velocity, real-time processing, data governance, operating model among others.

The prominence of innovation vectors (a variety of tools) highlights the understanding that collaboration within IT is now essential. As companies strive for operational and competitive advantages, they must foster collaborations with partners across the entire value chain, both upstream and downstream. These collaborations need to be implemented across several key axes:

- **Data**: There is an escalating need to share data quickly, securely, and in various formats. This requires advanced capabilities in integration management, ensuring high-quality data handling while addressing critical aspects such as ownership, lineage, quality, access rights and usage policies.
- **Cloud**: To tackle the data challenges mentioned above, cloud technology has expanded to ease the implementation of data solutions, both from technological and operational/business perspectives (e.g., SaaS, shifting from Capex to Opex). Research by Accenture shows a rise in cloud commitment, with 86% of organizations worldwide expanding their cloud initiatives. However, the study also reveals that only 42% of these organizations are fully realizing the benefits of the cloud.
- **Edge Computing**: Edge computing has become an integral part of the digital core, leveraging the power of cloud, data, and AI. It enables computing to be moved to the edge of the organizational network, where it is closest to users, devices, and, importantly, where data is generated. This is crucial in an era where there is an increasing need to scale and transform businesses using AI-driven solutions.
- **Networks**: Organizations now recognize that current networks are becoming bottlenecks for innovation due to the surge in new technologies challenging network and communication infrastructures. Despite this, investment in the network and communication sector has historically received less organizational attention than other technological fields.

This sector also excels in organizational innovation skills and capabilities, with the technological talent market remaining complex and challenging to manage. The growing need for a workforce capable of acquiring the latest skills and knowledge, coupled with the understandable desire to reduce costs and improve efficiency in turbulent times, creates pressure. Nevertheless, the prevailing perception remains that it is more beneficial to upskill existing employees rather than hire externally, as demand for technological talent is expected to continue exceeding supply.

40 Dr. Shaul Levi has nearly 30 years of experience in information technology. He previously served as the head of the Information Systems Branch in the Israeli Defense Forces (IDF). Currently, he manages the Data and AI practice at Accenture Israel. Additionally, Dr. Levy lectures at both undergraduate (B.Sc) and graduate levels (M.Sc.), focusing on business transformation driven by advanced technologies at the heart of the digital revolution.

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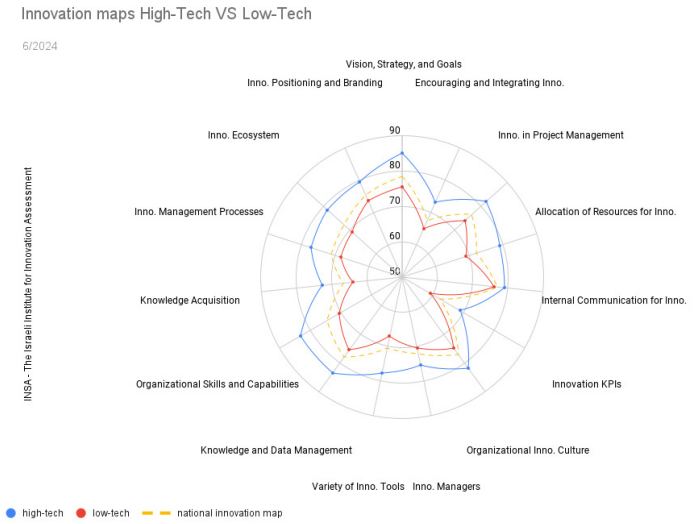
Chapter 3
Additional Statistics

3.1 Presentation and Analysis of Cross-Sectoral Innovation Maps

This section presents cross-sectoral maps and graphs, categorized by various classifications, and includes analysis from the institute's team, as well as expert opinions. Following the map analysis, we will provide comprehensive insights from both experts and organizations regarding the overall findings of the report and the state of innovation within the Israeli economy.

Analysis by Level of Technological Intensity

The sectors are categorized into three levels—low-tech, mid-tech, and high-tech—based on their investment in research and development, following the definitions outlined by the Central Bureau of Statistics (CBS). A detailed breakdown of these classifications can be found in Appendix D.



Map Analysis

The analysis reveals that relative strengths and weaknesses across the various categories are generally consistent. However, the high-tech sector significantly outperforms all other sectors in every category. The most pronounced differences are in three key areas: resource allocation for innovation, innovation vectors (tools), and organizational innovation skills and capabilities. In contrast, the gaps are relatively smaller in two categories: organizational innovation officers and internal organizational communication.

The following graphs demonstrate that, in most contexts, the low-tech and mid-tech sectors exhibit a high degree of similarity. In contrast, both sectors differ markedly from the high-tech sector.

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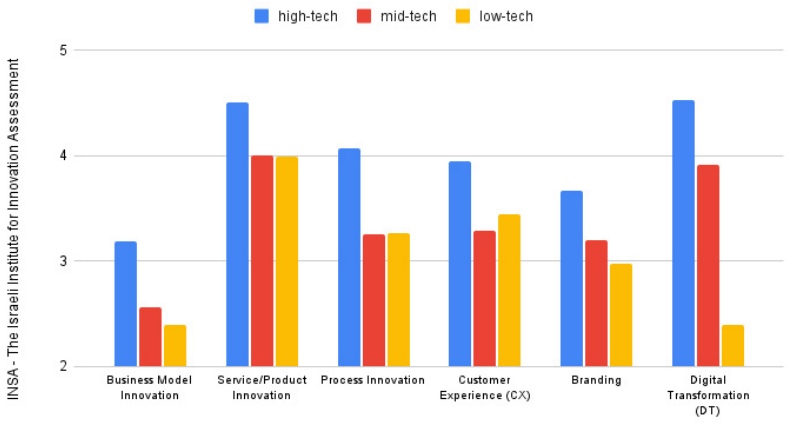
Applications of Innovation (nationally)

6/2024



Scope of Innovation (nationally)

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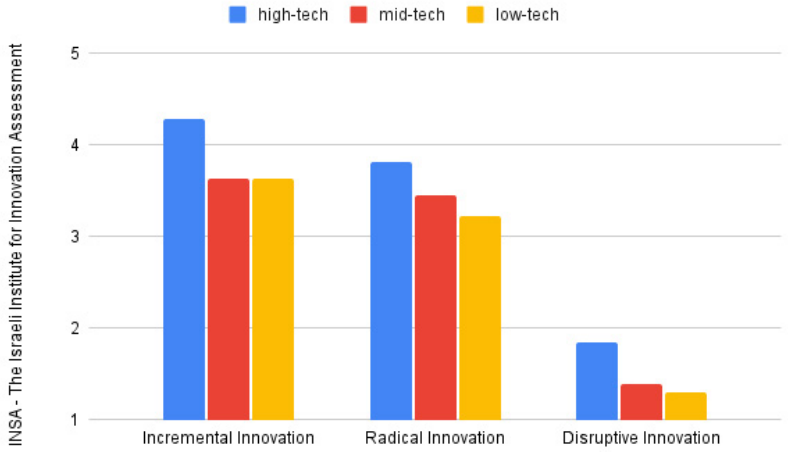
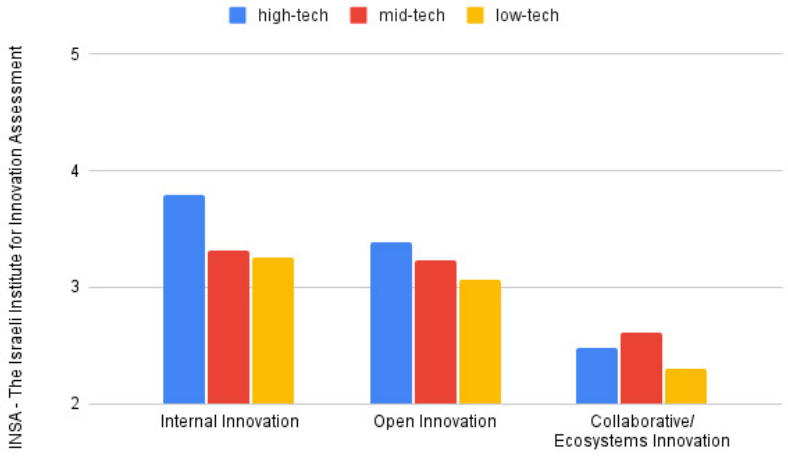


Source and Directions of Innovation (nationally)

6/2024



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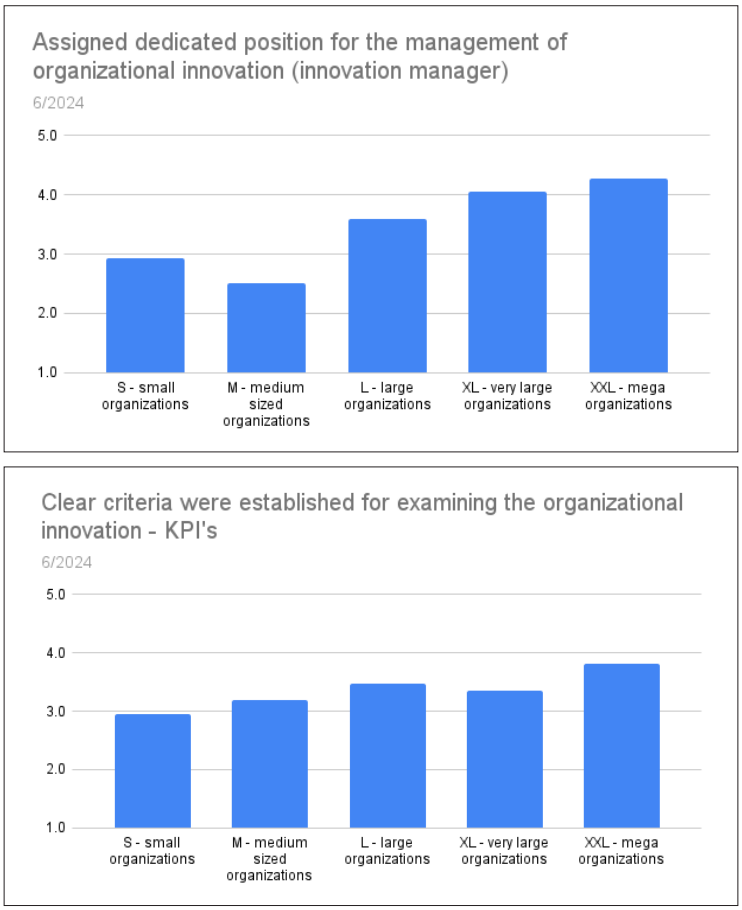
Graph Analysis

It is notable that, in most innovation applications, the low-tech and mid-tech sectors exhibit significant similarity, while the high-tech sector consistently ranks higher, with a margin of 0.5 to 0.75 on a scale of 1 to 5 (approximately 12.5% to 18.5%). The only substantial difference between the mid-tech and low-tech sectors is observed in digital transformation, where the low-tech sector scores extremely low. Additionally, there is a noticeable gap in favor of the high-tech sector in business model innovation. However, in absolute terms, business model innovation remains relatively low across all sectors.

Regarding sources of innovation, the high-tech sector demonstrates a clear advantage over both the mid-tech and low-tech sectors, particularly in internal organizational innovation. The gap is narrower in open innovation and nearly disappears in collaborative innovation, although the absolute level of collaborative innovation is low across all sectors. Several factors may explain this, including the generally weaker internal innovation capabilities in the low-tech and mid-tech sectors, which lead to a greater reliance on external entities for innovation. For the low-tech sector, its tendency to engage in both internal and external collaboration may stem from the nature of its activities, which often require a balance between internal communication and external focus on customer experience.

In terms of the intensity of innovation across all types, the high-tech sector outperforms the low-tech and mid-tech sectors by approximately 0.5 (around 12.5%), with negligible differences between the low-tech and mid-tech sectors. All sectors show relatively strong performance in incremental and radical innovation, but all are notably weak in disruptive innovation.

Analysis by Organization Size

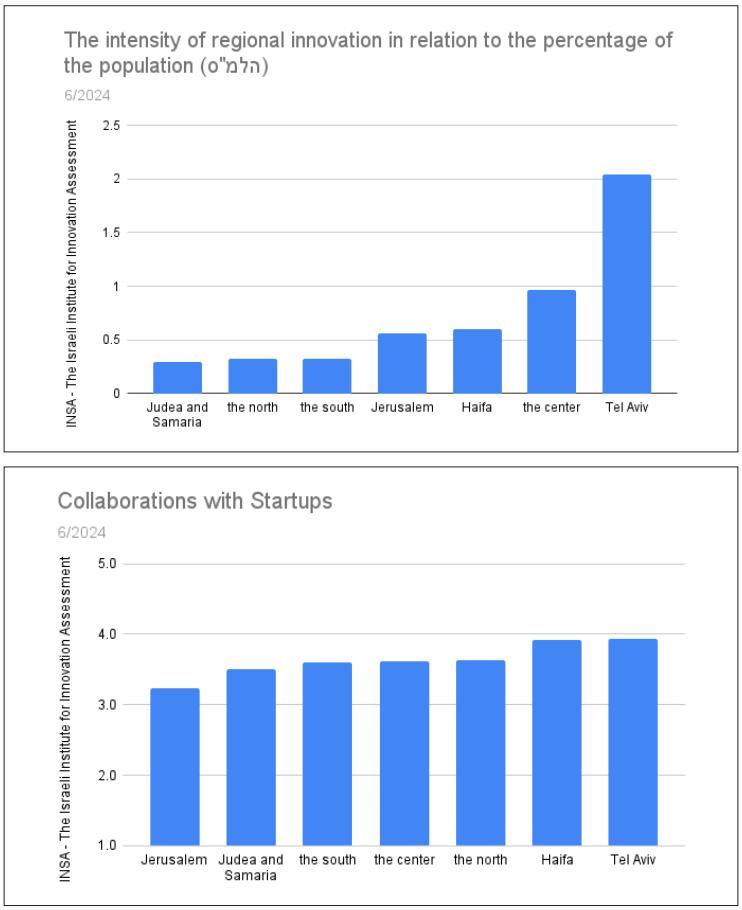


Graph Analysis

The findings from the graphs support an anticipated hypothesis: the larger and more resource-rich an organization is, the more systematic and structured its innovation process becomes. This is evident in the appointment of dedicated innovation managers and the establishment of clear, effective performance metrics. However, a discontinuity emerges in the appointment of innovation managers between small and medium-sized organizations. Small organizations show a slightly higher tendency to appoint innovation managers compared to medium-sized ones.

This discrepancy can be attributed to differences in role definitions within organizations. In small organizations, the innovation manager's role is often secondary to the CEO's responsibilities, whereas in medium-sized organizations, the role of the innovation manager is sometimes unclear or even absent. In some cases, the position of innovation manager is overlooked during the transition from a small to a medium-sized organization.

Analysis by Geographical Location



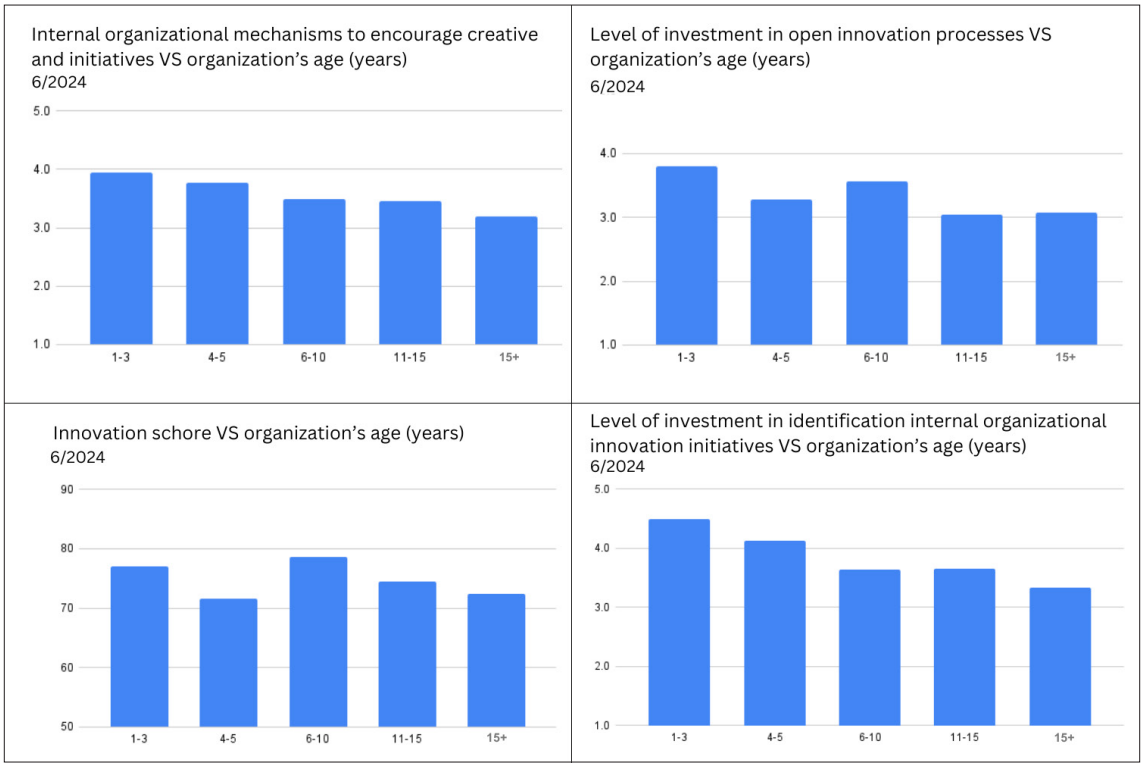
Graph Analysis

Regional innovation intensity measures the ratio between the regional innovation score and the relative share of the population, with an internal weighting for the percentage of regional organizations participating in the index.

The highest innovation intensity is observed in the Tel Aviv district, which significantly outperforms other districts. The Central district ranks second, with an intensity 50% lower than that of Tel Aviv. The Jerusalem and Haifa districts share third place. At the lower end of the scale are the northern and southern peripheries, along with the Judea and Samaria region.

When it comes to collaboration with startups, no significant gaps are observed between the districts, although Tel Aviv continues to maintain its leading position.

Analysis by Organization Age



Graph Analysis

As observed, the older the organization, the lower its investment in both internal and external innovation processes.

The optimal ratio between investment and innovation output is found in organizations aged 6–10 years. These organizations show an average level of investment in both internal and external innovation, coupled with the highest innovation scores, indicating effective cross-organizational innovation management.

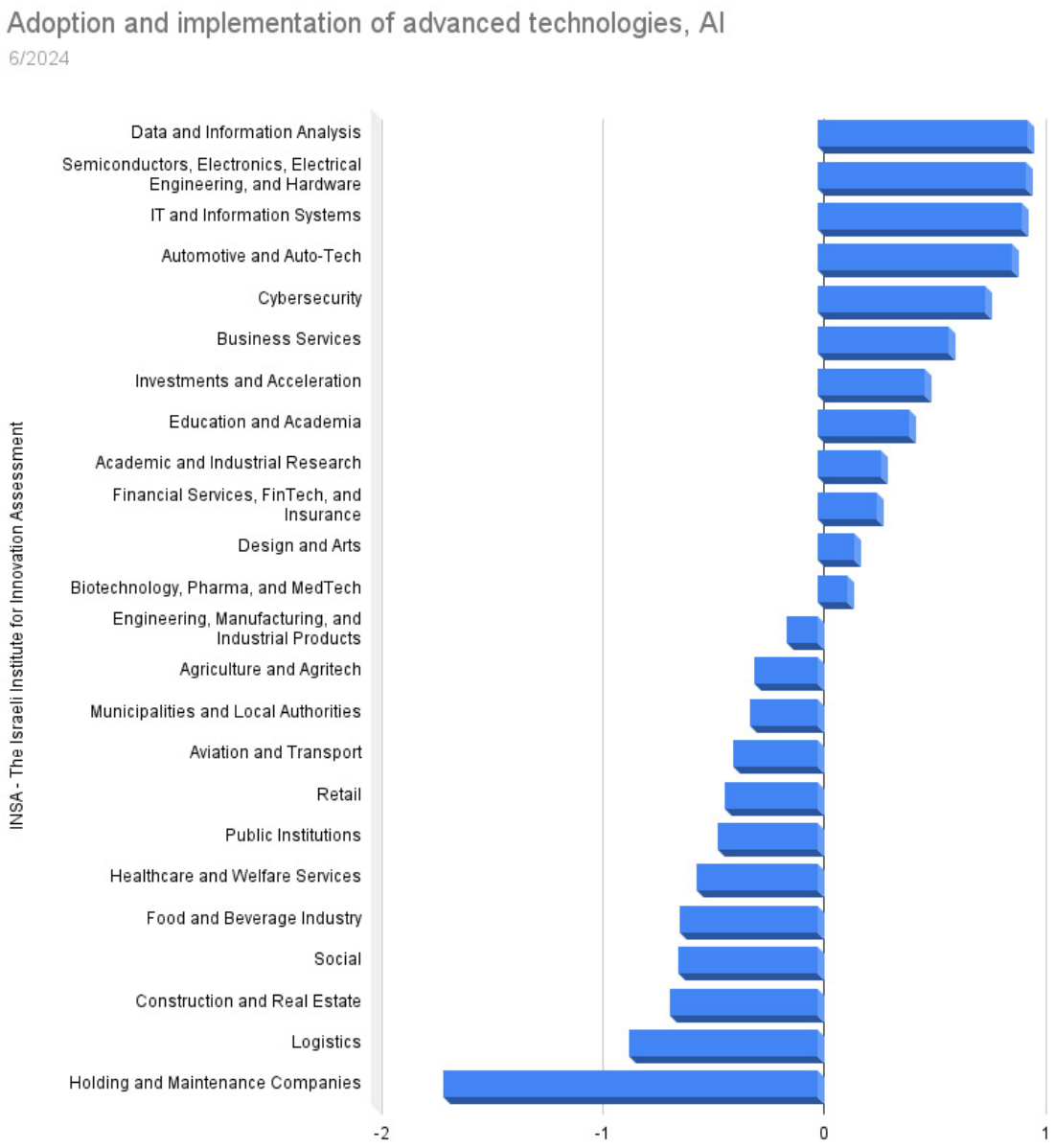
Young organizations (1–3 years old) tend to invest heavily in innovation processes, though often in a less methodical way. These organizations are typically small and dynamic, with simpler processes for initiating and implementing innovations, which is reflected in their innovation scores.

In contrast, older organizations (15 years and above) exhibit the lowest levels of investment in both internal and external innovation, and their innovation scores are similarly low.

Organizations aged 4–5 years show relatively high investment in internal innovation, with average investment in open innovation. This phase is crucial for managing innovation resources effectively and transitioning to more structured innovation management as the organization grows and stabilizes.

The key challenge for organizational leadership is to sustain innovation management capabilities throughout the organization's lifecycle.

The Intensity of AI Adoption and Implementation by Industry



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Graph Analysis

As expected, the more technologically advanced a sector is, the more likely it is to adopt and implement AI technologies. However, certain sectors deviate from this trend.

For instance, the business services sector, despite not being classified as a technological sector, demonstrates a high level of AI adoption. Similarly, the education and academia sectors show a relatively significant adoption of AI technologies, although still at lower levels than high-tech sectors.

On the other hand, the aviation and transportation sector, categorized as mid-tech, tends to adopt AI technologies more slowly than average. This may be due to the stringent safety regulations governing the field. Similarly, sectors like biotechnology, pharmaceuticals, and med-tech, despite being highly technology-oriented, also adopt AI technologies at a relatively slow pace, likely because of strict regulatory requirements.

At the bottom of the list is the maintenance and facility management sector, which stands out for its exceptionally low level of AI adoption.

An interesting exception is the design and arts sector, classified as low-tech, which typically shows very low adoption of advanced technologies but demonstrates above-average AI adoption. This likely reflects the significant transformations the field is undergoing due to the AI revolution.

Expert Opinion / Dr. Shaul Levi[41]

The Importance of a Clear Vision for Innovation. Defining a clear vision for innovation and integrating it into the overall organizational strategy, alongside setting well-defined goals and objectives, has become standard practice for many organizations. This reflects the growing recognition, over the past decade, that various technological capabilities have become essential infrastructures for driving innovation. These capabilities include modern data infrastructure, advanced analytics solutions focused on machine learning, and, in the near future, generative AI (Gen AI), as well as cloud infrastructures, edge computing, and more.

Senior management teams are increasingly aware of the significance of articulating a clear vision for innovation, with goals and objectives to guide it. These efforts are aimed at fostering innovation across value propositions, business models, operational processes, and beyond. For example, organizations recognize the positive impact of Gen AI on human productivity. Research from Accenture suggests that Gen AI could influence up to 40% of all work hours, as language tasks account for 62% of employees' time, and 65% of this time could become more productive through automation or augmentation.

Bloomberg forecasts that the AI market will reach $900 billion by 2030, driven by rapid technological advancements and increased adoption across industries. The continuous development and accelerated implementation of AI models are expected to fuel substantial market growth. Companies investing in AI today are likely to capture significant market share and drive future profitability.

Thus, companies and industries are increasingly acknowledging the business relevance of AI. While demand for AI spans all sectors, the strongest demand remains in technology companies, the financial services sector (banking, insurance), as well as in communications, media, and life science sectors. These trends align with the findings of this report. Examining the nature of AI use cases reveals a focus on solutions for organizational functions such as: marketing, sales, customer and technical support centers, as well as industry-specific use cases aimed at differentiation from competitors. These categories of use cases dominate the AI field, with approximately 50% of Accenture's AI projects (out of 700 projects, including 200 internal implementations) falling into these categories.

The graph also highlights that the adoption of AI technologies is most prevalent in industries with the following characteristics:

1. A strong technological core compared to other industries.
2. Predominantly digital organizational assets.
3. Low dependence on the physical dimension.

Moreover, the implementation of Gen AI solutions is most feasible in industries that have already embraced classical AI solutions. Industries lacking the necessary technological and organizational infrastructure and capabilities in classical AI face challenges in transitioning to Gen AI. Another critical factor is senior management's confidence in their ability to execute transformations. According to Accenture, there is a significant gap between management's confidence in implementing changes and their aspirations. The study found that only 30% of senior management in organizations are confident in their ability to execute AI-driven transformations, even though the vast majority anticipate workforce changes resulting from such transformations.

Employee trust in leadership is also a key factor. While Gen AI holds significant potential, it also raises ethical and social concerns, including issues related to workflow changes, occupational mixes, roles, employee skills, data privacy, intellectual property protection, bias, and responsible use of AI. An Accenture study found that 95% of employees value working with AI and are willing to acquire new skills for this purpose. However, their primary concern is a lack of trust in organizations to ensure positive outcomes for all stakeholders.

41 Dr. Shaul Levi has nearly 30 years of experience in information technology. He previously served as the head of the Information Systems Branch in the Israeli Defense Forces (IDF). Currently, he manages the Data and AI practice at Accenture Israel. Additionally, Dr. Levy lectures at both undergraduate (B.Sc) and graduate levels (M.Sc.), focusing on business transformation driven by advanced technologies at the heart of the digital revolution.

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Industries and organizations that have implemented strategies and tools to manage this tension over time will be better equipped to adopt AI-based technologies successfully.

Therefore, an additional critical dimension that differentiates industries is the ability to manage change. Organizations with established methodologies that allow them to identify the insights necessary for justifying and implementing advanced technologies, while also mapping required actions for their realization, will be more successful in integrating AI solutions. For example, lower-level managers are twice as likely as senior management to feel that changes are occurring too quickly. Managing this tension is crucial not only between senior management and the general workforce but also among different management levels.

With the introduction of AI and Gen AI technologies, organizations must redesign their workforce in light of changes in work processes, the nature of occupations, the employee mix, and the skills required. Some roles will be replaced by automation, others will shift focus (reducing operational tasks and emphasizing communication, strategic and critical thinking), and some will require the acquisition of new and/or enhanced skills to realize the potential of AI technologies. Furthermore, the demand for data fluency and AI-related skills will grow across both core talent and the broader workforce.

At the same time, behavioral skills will become increasingly important. For instance, implementing Gen AI in customer service will transform this function, as employees will need to perform higher-order cognitive tasks, such as judgment, ethical reasoning, and active problem-solving of AI-generated messages and outputs. Customer service representatives will be able to devote more attention to customer interactions due to reduced administrative tasks. They will also play a role in maintaining, monitoring, and improving AI systems, a shift from their previous role of primarily consuming such services. They will contribute to the continuous improvement of the AI tools they use, adapting systems to customer needs, evaluating and auditing outputs, monitoring privacy and data biases, and ensuring the ethical behavior of the solutions.

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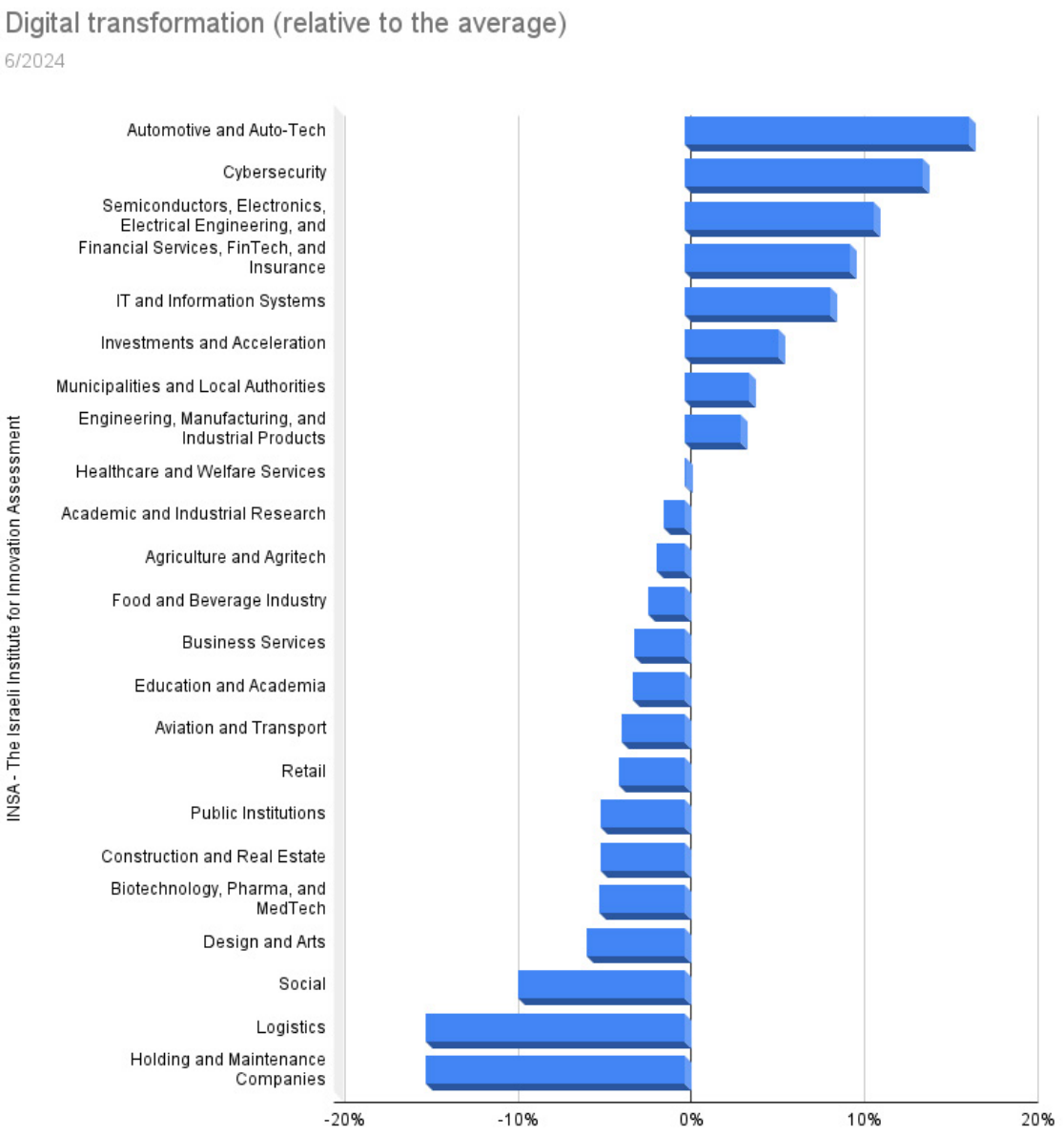
Organizational Digital Processes.



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Expert Opinion – Digital Transformation / Raz Haiferman[42]

The Israeli Innovation Assessment Institute's 2024 report offers a comprehensive, professional, and high-quality analysis, based on a methodology developed by the Institute to evaluate innovation across 35 industries and categories. The report underscores that digital transformation is a key focus in the national innovation landscape, with organizations dedicating substantial resources to this initiative. In fact, around 75% of organizations allocate significant resources to both innovation and digital transformation efforts.

Although innovation and digital transformation are closely connected and both essential for organizational growth, they are distinct processes. A closer examination reveals the differences between them, even as they work together in an integrated and complementary manner. Every digital transformation has the potential to drive innovation, which can manifest in various forms: enhanced customer experiences, the implementation of digital business models, innovative business processes, the development and marketing of digital product offerings, and the creation of efficient, user-friendly digital services that deliver value to customers. Consequently, many innovation strategies incorporate a digital component. For example, improvements in customer experience can be achieved by introducing new digital customer channels, creating customized products and services based on big data for demand forecasting, leveraging advanced analytics for intelligent purchase history analysis, and developing recommendation engines powered by artificial intelligence and machine learning.

However, it is important to highlight that not all organizational innovations are inherently digital. For instance, innovations in food products—such as extending shelf life or improving packaging convenience—do not involve digital technologies. Nevertheless, an organizational innovation strategy often influences the integration of innovative technologies, which can add significant value for customers.

An analysis of the industries featured in the 2024 Israeli Innovation Report reveals that most organizations across various sectors have opted to undergo digital transformation underpinned by a systemic innovation strategy.

The accompanying graph provides an overview of digital transformation at the industry level, showing which industries are investing more heavily than the average and which are investing less. The technology sectors stand out as particularly high investors, while other sectors like automotive, auto-tech, electronics, financial services, fintech, insurance, and municipalities also show notable investments. In contrast, sectors such as public institutions, airlines, transportation, education, and logistics show relatively lower levels of investment.

Interestingly, there appears to be a strong correlation between the level of investment in digital processes and the technological maturity of an industry. The low-tech sector, in particular, exhibits relatively low investment in digital transformation compared to mid-tech and high-tech industries, which lead by a significant margin. This raises an important question: do high-tech organizations invest in digital transformation as a defining characteristic, and does this investment contribute to their growth? Will low-tech industries that invest significantly in digital transformation improve their competitive positioning? The industry strength analysis (Appendix E) demonstrates a clear link between investment in digital processes and the advancement of innovation, underscoring the importance of such investments for industry growth.

In conclusion, both innovation and digital transformation serve as crucial engines of organizational growth in the 21st century. The 2024 Israeli Innovation Report provides a valuable snapshot of the current status across various industries, offering insights that can help managers drive entrepreneurship, innovation, and digital transformation within their organizations.

42 Raz Heiferman is a senior consultant specializing in digital transformation and a lecturer on the subject in MBA programs at Ono Academic College and Ruppin Academic Center.

3.2 Expert Opinions

The Importance of Innovation Management Processes / Shamir Research Institute[43]– Dina Gilad[44]

"Creativity is thinking up new things. Innovation is doing new things." – Theodore Levitt

Innovation processes are integrated into organizations both in Israel and globally at varying scales and intensities. To thrive in a competitive environment, organizations must foster and implement innovation that provides them with a competitive edge. The Israeli Innovation Report presents valuable and detailed information, equipping decision-makers with the insights needed to formulate strategies that drive innovation within their organizations. Additionally, the report offers opportunities for personalized assessments, allowing organizations to compare their performance against industry peers.

Israel's primary strength lies in its proven ability to integrate creativity and innovation across organizations, enabling groundbreaking technological advances. This capability has solidified Israel's position as the "Startup Nation," a leader in innovation and technology.

The report highlights that internal innovation rates are high, signaling that creativity and innovation are fundamental drivers of progress across industries, albeit at varying levels. To sustain this high level of innovation, it is essential to continually challenge human capital with present and future problems. This ensures that the workforce remains alert and adaptable, constantly seeking creative solutions. Given the diversity of industries and organizations, each one must develop innovation processes tailored to its unique characteristics and sector. These processes should include setting clear goals, implementing innovation strategies, and embedding them throughout the organization to meet these objectives.

The Role of R&D in Advancing Innovation

As outlined in the report, the research sector is in a constant state of creativity and innovation, driven by its open culture and focus on developing new, imaginative ideas. These ideas serve as the foundation for new initiatives and knowledge-based startups.

In recent years, there has been an accelerated pace of technological breakthroughs across various fields, many of which share a common thread: a solid scientific foundation that drives technological innovation. Despite the success in launching ventures and companies stemming from R&D, many still fail. This highlights the need for investment in translating the innovation generated through academic collaborations into actionable business strategies that ensure long-term success.

Moreover, we observe that larger companies tend to be more cautious and engage less with academia and innovation processes compared to smaller companies and startups, which are more active in these collaborations. To leverage the full potential of innovation, we recommend that larger companies expand their partnerships with academia and increase their involvement in innovation initiatives.

In conclusion, R&D is a cornerstone for advancing innovation. It fosters an ecosystem that supports both innovation and entrepreneurship, contributing significantly to the country's economic development. To further enhance creativity and innovation in both the private and public sectors, additional resources should be invested in building stronger, more effective connections between academia and industry. These partnerships will be instrumental in driving sustained growth and technological progress.

43 The Shamir Research Institute is an academic-applied organization that oversees the Golan Agriculture and Innovation Unit, along with its commercial subsidiary, Torah Developments Ltd., which focuses on developing startups.

44 Dina Gilad, the CEO of both the Shamir Research Institute and Torah Developments Ltd., is also a PhD candidate in the Department of Human Services at the University of Haifa, where she specializes in the effectiveness of academic-industry partnerships.

Expert Opinion – Innovation in Israel / EY – Yaara Goldwyn[45]

"Innovation is not a giant leap but a series of small jumps involving various entrepreneurs whose names are quickly forgotten." – Jeff Bezos

Innovation is one of the most intriguing yet complex areas in the organizational world today. If we were to ask 100 innovation managers to define innovation, we would likely receive 100 different answers. The Israeli Innovation Report makes an innovative attempt to create a unified innovation index for the Israeli ecosystem, providing organizations with a tool to evaluate their performance in comparison to similar organizations in an industry and to measure their progress in the innovation process against relevant reference groups.

The Challenging Role of Innovation Managers

As consultants in the field of innovation, we have the privilege of supporting a diverse range of companies on their journey toward organizational innovation. Each organization begins from a unique starting point, with its own set of capabilities, resources, tools, strategies, and goals. Together, we create a roadmap and design a workplan toward the desired objectives, recognizing that these goals may evolve along the way due to the dynamic nature of different sectors.

Innovation managers are required to navigate both the external environment—market trends, opportunities, collaborations, and competitors' activities—and the internal landscape of the organization. They must understand the organization's needs, align activities with its strategy, and build trust among executives and partners. By doing so, they can create immediate value while fostering long-term capabilities that contribute to the organization's success in a competitive environment.

The Gap Between Israel as a Global Innovation Leader and Innovation Management in Israeli Companies

Israel is recognized globally as a leader in technological innovation, driven by its exceptional entrepreneurial capabilities and success in the startup field. However, there is a gap between these capabilities and innovation management within large organizations. The Israeli entrepreneurial character—marked by flexibility, adaptivity, and a willingness to take risks—does not always align with the desire for stability and certainty within larger companies.

While the entrepreneurial spirit thrives in an uncertain environment, adapts quickly, and embraces risk, these traits can often create conflicts with the decision-making processes of larger organizations, which prioritize stability and predictable returns. As we move further from the startup ecosystem and into more traditional sectors, Israel's ability to lead in innovation diminishes. Large organizations often struggle to adopt deep innovation processes, as they tend to avoid risk in favor of stability.

The Metrics That Reveal the Full Picture

One notable finding from the report is the significant gap in organizations' ability to measure their innovation KPIs. Innovation teams often lack clear, measurable goals, making it difficult to demonstrate the business value of their efforts. Resource allocation for innovation depends on the ability to measure the value it generates, and the report suggests that this connection is not strong enough in many organizations.

Furthermore, only a small percentage of organizations engage in disruptive innovation, and only about 30% participate in open innovation. This is surprising, given that Israel's entrepreneurial ecosystem is regarded as one of the leading ecosystems in the world. The more effectively organizations utilize the resources available to them, the more the entire ecosystem can benefit.

45 Yaara Goldwyn leads the innovation team at EY, where the team assists companies in processes such as developing innovation strategies, establishing organizational innovation platforms, managing open innovation, and creating internal innovation frameworks.

Startups are eager to partner with mature companies to gain expertise, market proximity, resources, equipment, and access to advanced technology. On the other hand, large organizations are interested in embedding existing innovation around them and leveraging their capabilities efficiently and measurably.

In conclusion, innovation management is a critical step in transforming innovation into a structured and measurable discipline within Israeli organizations. While the findings of the report highlight that there is still considerable progress to be made, the journey itself is both exciting and rewarding. Organizations that choose to embrace this path can anticipate achieving meaningful and impactful results.

Expert Opinion – Improving Productivity in the Trade and Services Sectors / Federation of Israeli Chambers of Commerce – Israela Meni[46]

The output per hour (labor productivity) in Israel is approximately 24% lower than the OECD average. A sector-specific analysis of this productivity gap reveals that export-oriented industries, which face international competition, generally exhibit higher productivity compared to their counterparts in other countries. Conversely, industries focused primarily on the domestic market show lower productivity levels compared to similar sectors in other developed nations.

This disparity underscores the urgent need for a comprehensive analysis of innovation processes in Israel. The methodology presented in the report offers valuable tools for companies to better understand how they can align with market trends. The report's significance lies in its ability to provide clear transparency for companies to set goals aimed at increasing productivity through innovation, ensuring alignment with industry standards.

This report is particularly crucial given the substantial data gap in the market. Unfortunately, the Central Bureau of Statistics does not regularly track innovation levels, productivity trends by sector, or the impact of new skills and innovative technologies on productivity.

Productivity gaps typically stem from several key factors:

1. **Human Capital** – Sectors with a workforce of lower educational levels tend to experience lower productivity.
2. **Capital Stock** – The adoption of technological innovations, machinery, and equipment.
3. **Investment in Infrastructure** – The need for targeted investments in critical infrastructure.

To unlock Israel's productivity potential and foster innovation, the following actions are recommended:

- **Establish clear and continuous measurement**: Develop new metrics for assessing innovation and productivity development, and conduct industry-specific analyses where feasible. For example, the food retail sector, characterized by an unskilled workforce and limited technological adoption, would benefit from such analysis.
- **Remove regulatory barriers:** Focus on eliminating obstacles that hinder the implementation of technologies in traditional sectors, such as the introduction of electronic price labeling in retail.
- **Create a continuous training system:** Establish a one-stop shop for training programs aimed at improving human capital within organizations, with state and employer funding, and standardization of services in the training sector.
- **Promote investment in infrastructure**: Invest in areas like transportation, particularly public transportation, to enhance workers' mobility and access to job centers.
- **Expand funding for technology development:** Increase the financial support provided by the Innovation Authority to technology companies developing tools for the trade and services sectors.

By addressing these areas, Israel can harness its innovation potential, enhance productivity, and remain competitive in the global economy.

46 Israela Meni is the Vice President of Economics and Taxes at the Federation of Israeli Chambers of Commerce and a member of the Productivity Committee, chaired by Professor Zvi Eckstein.

Expert Opinion – Importance of Innovation Metrics / Joint Tevet – Dr. Alisa Berkowitz[47]

The 360 Program, founded by Joint Tabet in collaboration with the Ministry of Economy and Labor, the Innovation Authority, the Digital Administration, and the Ministry of Agriculture, seeks to enhance productivity and improve employment quality across Israel's economy, focusing on the industry, trade, services, construction, and agriculture sectors. This initiative comes in response to a national challenge: these sectors face a productivity gap of approximately 24% compared to leading countries globally (Aaron Institute). The program develops innovative solutions and implements targeted interventions through personalized business support, sectoral training, improved access to information and tools, and connections to a professional ecosystem. The goal is to encourage businesses and their employees to embrace both technological and non-technological (business and process) innovation while enhancing human capital.

The methodology underpinning the 360 Program aligns with the belief that developing the capabilities and skills of managers and employees is crucial for adapting to rapid technological changes. This approach complements the ISO56001 framework presented in this report and underscores the growing importance of Industry 5.0, which "places the worker at the center." Industry 5.0 highlights the need for managers and employees to harness technology to make informed strategic decisions that enhance business profitability. Additionally, employees are increasingly seen as key contributors to solving societal challenges, such as resource preservation and climate change adaptation. Consequently, organizations must invest in developing employees' skills, thereby improving retention rates and facilitating greater mobility within or outside the organization. Therefore, measuring these capabilities over time is critical, not only at the organizational level but also at the sectoral, regional, and national levels.

In light of ongoing technological advancements, climate change, frequent pandemics, and security instability in Israel, which affects businesses' ability to retain employees long-term, both managers and employees must cultivate skills to navigate organizational changes and a competitive business environment. According to the PIAAC survey (processed by the Chief Economist's Division, Ministry of Finance, 2024), managerial skills in Israel are 16% lower than the OECD average.

The 15 categories of organizational innovation metrics presented in the report are essential for implementation, particularly in Israel's low-productivity sectors. The findings align with assessments conducted by the 360 Program, which has worked with dozens of businesses and their employees in sectors such as industry, agriculture, construction, trade, and services, particularly small and medium-sized enterprises (SMEs). These businesses face significant barriers to adopting innovation across all dimensions. Often, managers lack advanced management skills and do not operate with data-driven strategies aimed at measurable goals.

Many organizations also lack a designated "innovation manager," and innovation culture is not integrated into the leadership's organizational practices, leading to low adoption rates among middle managers and employees. Furthermore, insufficient collaboration with external actors limits the ability to leverage opportunities from the local and international business environment. These insights stem from the program's work with approximately 100 businesses over the past two years through personalized support, sectoral training, and surveys.

Despite substantial state investment in advanced technological solutions, particularly for startups targeting international markets, relatively little attention is given to ensuring the regulated accessibility of these technologies for local businesses in sectors such as trade, services, agriculture, and construction. Even less focus has been placed on developing the skills of existing managers and employees to adopt these technologies. For example, in the construction sector, the Ministry of Economy, the Ministry of Housing and Construction, and the Innovation Authority have supported the growth of Israeli startups[48] but have not yet invested in providing businesses, managers, and employees with the methodological support needed to adopt these technologies and connect to research and academic resources.

47 Dr. Alisa Berkowitz is the Director of the 360 Programs Cluster at the Joint (JDC).
48 ConTech - the official arm of the Israeli government, dedicated to promoting Construction Tech & PropTech.

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This issue is also evident in the agriculture sector, where the state promotes the growth of agri-tech and food-tech industries but does not invest sufficiently in developing the skills of agricultural businesses to adopt these innovations and expand their operations. In the trade and services sectors, there are no institutional bodies dedicated to encouraging the development of new technologies or supporting the skill development of managers and employees for technological adoption. The lack of investment in building organizational capabilities to implement innovation in these areas exacerbates the productivity gap between large companies, which can invest in these capabilities independently, and medium-sized businesses, which often struggle to do so. The 360 Program aims to bridge these gaps, helping medium-sized businesses adopt innovation to increase productivity and improve the long-term quality of employment for their employees. The need for these capabilities is especially urgent in times of uncertainty and frequent change, as many businesses in Israel experience due to the current emergency situation. Initial findings from the program's support of 30 industrial plants in combat zones and the training of 35 senior "innovation managers" in the trade, services, and construction sectors in 2024 lend support to this approach.

In conclusion, adopting innovation across all its dimensions requires significant resources and entails medium to high risks for businesses. Therefore, it is essential to combine both internal and external organizational capabilities and resources over time. It is vital to allocate resources toward the development of "non-technological" innovations and human capital at the organizational, sectoral, and regional levels, encouraging cooperation among government ministries, professional associations, research bodies, academia, and non-governmental and business entities. These efforts must be measurable, and innovation metrics should be periodically updated through surveys conducted by the Central Bureau of Statistics (in addition to existing ICT surveys). Publishing this data transparently will facilitate regular updates to innovation metrics and inform the necessary interventions to effectively integrate innovation into the economy.

Moreover, to ensure sustainable change, these efforts must include cross-sector, local, and international collaborations that foster mutual learning and substantial growth across businesses and their employees throughout the entire value chain. These collaborations will help continuously refine innovation metrics and guide the interventions necessary for their successful implementation across all sectors of the economy.

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Expert Opinion – Innovation in Israeli High-Tech / Israeli High-Tech Association – Maya Schwartz[49]

In recent years, Israel's high-tech industry has emerged as one of the world's leading innovation hubs, attracting global investments and significantly impacting the country's economy. This achievement is driven by the creative, innovative, and groundbreaking human capital within the sector. Israelis are renowned for their ability to think outside the box, identify challenges, and transform them into opportunities by developing pioneering solutions. Today, more than ever, given the complex challenges Israel faces—including over a year of conflict with the possibility of more to come—it is imperative that we harness creativity, innovation, and efficiency to navigate these turbulent times. I am confident that we will rise to this challenge, thanks to the brilliant minds nurtured in Israel. In the coming years, we must integrate innovation to streamline development and manufacturing processes, continue leading in security technologies, including cybersecurity, while simultaneously reducing manpower requirements and maintaining high productivity. These pressures often spur innovation, and I foresee that even during this challenging period, we will meet the necessary demands.

The annual report from the INSA Institute highlights that innovation within the industry continues to thrive in 2024, but challenges remain that must be addressed to sustain and strengthen Israel's position as a global high-tech leader. One key challenge identified in the report is the need for specific innovation performance indicators (KPIs). It is essential for every organization to establish clear metrics that not only measure innovation's contribution to its success but also its impact on the national economy over time.

Moreover, the report emphasizes that organizational culture is foundational to fostering innovation. This extends beyond the allocation of resources; it involves creating an environment where every employee feels safe to propose new ideas and experiment, even if those ideas might fail. A sense of security and empowerment is crucial to encouraging employees to embrace challenges, take risks, and innovate without fear of failure.

Digital and technological innovation are also identified as critical drivers for the continued success of the high-tech sector. Therefore, investing in the development of knowledge and skills in these areas should be an integral part of strategies to grow and retain a skilled technological workforce.

Additionally, comparisons across various sectors underscore the importance of government support and collaboration between the private sector, government, and academia. It is vital to establish bridges that enable the free flow of knowledge and resources between these sectors, fostering innovation across the board.

Despite impressive advancements in innovation, there is growing concern about Israel's declining status as the "Startup Nation." While government support remains essential, concerns about the broader business climate, including the impact of security challenges, are increasing. It is crucial for the government to continue its commitment to fostering an environment conducive to innovation.

At the Israeli High-Tech Association, we are dedicated to supporting innovation initiatives as a core part of our mission. We are committed to working alongside the government to develop solutions that enhance investor security and trust. Additionally, we are committed to exposing manufacturing companies to new technologies that will improve efficiency and increase output. By supporting Israeli high-tech in all its forms, we aim to ensure that Israel retains its position as a global high-tech powerhouse.

In conclusion, the findings of the report reinforce the understanding that innovation is not only a catalyst for technological advancement but also a critical driver of Israel's national and global competitiveness. This, in turn, is essential for the continued growth and prosperity of the economy.

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49 Maya Schwartz is the CEO of the Israeli High-Tech Association at the Manufacturers' Association of Israel, where she promotes and represents the Israeli high-tech industry. She holds a degree in Mechanical Engineering, specializing in Automation and Robotics, as well as a BA in Computer Science and Management. With extensive experience in product development, advanced technologies for the manufacturing industry (including AI and Industry 4.0), business development, and entrepreneurship, she is a leader in driving innovation in the sector.

The International Standards for Innovation Management / The Standards Institution of Israel[50] – Einat Stein[51]

An innovation management system serves as a strategic framework for organizations to define their innovation vision, strategy, policies, and goals. It establishes the necessary support structures and processes to achieve desired outcomes and foster organizational innovation.

In 2013, the International Organization for Standardization (ISO) established a new Technical Committee (TC) focused on innovation standards, known as ISO/TC 279 – Innovation Management. This committee is composed of leading innovation experts from around the world, including experts from Israel. The committee develops the ISO 56000 series of standards—international guidelines designed to help organizations align their systems and processes to manage innovation initiatives effectively. The ISO 56000 series views the innovation management system as a collection of interrelated elements that work together to create value. These standards address every factor that contributes to an organization's ability to innovate, culminating in the implementation of an effective innovation management system. They are designed to support innovation across all types of organizations, regardless of size, sector, maturity level, or industry. The Innovation Report maps the quality of innovation process management within the Israeli economy, using these standards as a framework.

Why Do We Need International Innovation Standards?

Innovation is a key driver of business and organizational change, and, like any other business function, it can be managed. ISO has hundreds of standards that support the growth and competitiveness of organizations. These standards help establish systems and processes that create added value, fostering organizations' unique paths to harness and maximize innovation. By doing so, ISO standards contribute to building an innovative, resilient, and sustainable society.

Who Benefits from Innovation Standards?

Regulators and policymakers benefit from ISO standards by relying on them as a solid foundation for creating public policies that encourage innovation and promote a more sustainable and flexible society. Businesses, in turn, benefit by responding more effectively and efficiently to change, seizing opportunities for growth while managing risks. Companies can demonstrate their ability to manage innovation processes, achieving their goals, while consumers benefit from improved products and services as organizations increase their innovation capabilities.

The benefits of implementing innovation standards are numerous: they improve an organization's ability to manage uncertainty, enhance sustainability and resilience, increase profitability, improve reputation and customer retention, reduce costs, and create a more empowered workforce.

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50 The Standards Institution of Israel was founded before Israel's independence with objective of establishing a culture of quality, health, and safety in the country. It is at the center of the country's economic and national endeavor.
The Standards Institution of Israel leads the Israeli economy in the writing of standards that ensure the safety and soundness of products, laboratory testing, services, and processes that touch on all aspects of our lives.
The Standards Institution of Israel is part of the international quality community and an active member in international standards and certification organizations, including the International Electrotechnical Commission (IEC) and the International Organization for Standardization (ISO). The Standards Institution of Israel has recognition agreements that facilitate foreign trade.

51 Einat Stein holds a master's degree in quality and Reliability Assurance from Technion. She serves as a quality management project manager at the Standardization Division, Israel's standards institution. In this capacity, she oversees complex, high-impact standards projects that contribute significantly to the Israeli economy across various sectors.
For more on ISO and innovation, visit: https://www.iso.org/publication/PUB100444.html and https://www.planbox.com/10-most-popular-iso-56001-questions-answered/

What Innovation Standards have been published in Israel?

Ten international standards have been published under the ISO/TC 279 committee, with more standards currently in development. Six of these standards have been adopted as Israeli standards by an Israeli Committee chaired by Dr. Shalhevet Tzur. To ensure accessibility for users in Israel, full Hebrew translations have been added to ISO 56000 and ISO 56002. Below is a list of the standards adopted in Israel:

ISO 56000 - Innovation management - Fundamentals and vocabulary

ISO 56002 - Innovation management - Innovation management system - Guidance

ISO 56003 - Innovation management - Tools and methods for innovation partnership - Guidance

ISO 56004 - Innovation Management Assessment - Guidance

ISO 56005 - Innovation management - Tools and methods for intellectual property management - Guidance

ISO 56006 - Innovation management - Tools and methods for strategic intelligence management - Guidance

In September 2024, a new international standard for certifying organizations in the field of innovation was published:

ISO 56001 – Innovation management system - Requirements

ISO 56001 provides requirements and guidance for establishing, implementing, maintaining, and improving an innovation management system. It is distinct from other parts of the series, published as Guidance only. This standard aims to enhance an organization's ability to innovate consistently and successfully. It applies to all types of organizations regardless of type, size, or the products and services they provide, offering a systematic approach to fostering and managing innovation. Certification according to ISO 56001 is voluntary, meaning organizations can choose whether to adopt the standard's requirements and request certification from an accredited body. However, obtaining certification offers significant benefits in improving organizational performance in innovation management. Key advantages of certification include: systematic innovation management, increased trust from stakeholders, enhanced operational efficiency, better risk management, compliance assurance, global recognition, access to international markets, and opportunities for partnerships. Furthermore, certification can give organizations a competitive edge, encouraging a focus on strategic innovation, building a strong innovation brand, and fostering collaborative innovation.

Conclusion

The Israeli Innovation Assessment Institute was established to promote professional and accurate measurement and evaluation of innovation within Israeli organizations. The national Innovation Report maps the quality of innovation process management across the Israeli economy, providing a benchmark for progress. Innovation standards play a crucial role in advancing the quality of innovation management processes, and organizations that choose to follow these standards will be better positioned to develop their innovation capabilities and successfully bring innovations to market. Organizations that pursue certification under ISO 56001 will see substantial improvements in their innovation management performance and gain significant competitive advantages.

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Chapter 4
Appendixes

Appendix A – Expanded Statistical Information, Relatively Stable Categories

Category	Median	Symmetry around the mean	Relative stability	Standard deviation	Relative strength	Average
Innovation Vision, Strategy, and Goals	83.3	-0.95	1.05	18.74	1.08	78.3
Inno. in Project Management	80.0	-0.83	0.92	21.33	1.07	77.4
Organizational Inno. Culture	80.0	-0.55	1.22	16.09	1.07	77.3
Knowledge and Data Management	80.0	-1.00	1.06	18.48	1.07	77.2
Organizational Innovation Skills and Capabilities	78.0	-0.79	1.08	18.26	1.04	75.2
Internal Communication for Inno.	76.8	-0.52	0.96	20.39	1.04	75.2
Inno. Positioning and Branding	77.5	-0.70	1.09	18.10	1.03	74.6
Inno. Ecosystem	76.7	-0.68	1.09	18.10	1.00	72.3
Inno. Managers	75.00	-0.46	0.99	19.91	0.99	72.0
Allocation of Resources for Inno.	73.3	-0.49	0.93	21.18	0.99	71.7
Variety of Inno. Tools	70.91	-0.32	1.13	17.34	0.97	70.0
Inno. Management Processes	73.3	-0.57	0.89	22.03	0.96	69.8
Encouraging and Integrating Inno.	69.9	-0.33	1.04	18.96	0.94	68.0
Knowledge Acquisition	66.7	-0.10	0.93	21.09	0.91	65.9
Innovation KPIs	60.0	-0.24	0.79	24.73	0.84	60.6

The ratio between the overall standard deviation and the standard deviation within a category is a key measure of variability. **Relative Strength**: This is the ratio of a category's score to the overall score, providing insight into how that category compares to the entire dataset. **Symmetry around the mean**: A positive skew indicates a longer tail on the right side of the mean, while a negative skew indicates a longer tail on the left side. A skew near zero reflects a symmetric distribution around the mean.

From the table displaying the averages and standard deviations of innovation categories, several notable insights emerge. Three categories stand out as relatively strong in terms of innovation: *vision, strategy, and innovation goals, organizational innovation culture*, and *knowledge and data management*. Conversely, three categories appear weaker: *encouragement and implementation of innovation*, *performance indicators for innovation*, and *knowledge acquisition*. Additionally, two categories—*resource allocation for innovation* and management of innovation processes —warrant attention. These categories exhibit slightly below-average scores but show relatively high standard deviations, indicating greater variability and potential for improvement.

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Appendix B – Organization Sizes by Division.

Description	Marking	Organization's size
small organizations	S	5-20
small organizations	S	20-50
Medium sized organizations	M	50-100
large organizations	L	100-200
large organizations	L	200-500
large organizations	L	500-1000
Very large organizations	XL	1000-3000
mega organizations	XXL	3000 +

* The classification of organization sizes is partially based on the definition provided in Government Decision No. 2190, dated August 12, 2007.

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Appendix C – Confidence Level

This appendix provides a detailed explanation of the methodology used to select the sectors included in the index.

Cronbach's Alpha	Category
0.861	Innovation Vision, Strategy, and Goals
0.734	.Encouraging and Integrating Inno
0.763	Inno. in Project Management
0.754	.Allocation of Resources for Inno
0.677	.Internal Communication for Inno
0.851	Innovation KPIs
0.841	Organizational Inno. Culture
0.697	Inno. Managers
0.891	Variety of Inno. Tools
0.769	Knowledge and Data Management
0.746	Organizational Innovation Skills and Capabilities
0.663	Knowledge Acquisition
0.745	Inno. Management Processes
0.792	Inno. Ecosystem
0.81	Inno. Positioning and Branding

Statistical analysis was conducted using SPSS software. The Cronbach's alpha for the entire index was 0.972, indicating excellent internal consistency. The KMO (Kaiser-Meyer-Olkin) measure was 0.921, which is greater than the threshold of 0.8, confirming the suitability of the data for exploratory factor analysis (EFA).

Factor Analysis

The results indicate that all questions in the index are highly relevant. The sector division is accurate, but adjustments will be made for future reports as part of the Institute's learning process and its efforts to better align the index with the Israeli economy.

At the Sector Level

To optimize the index data and ensure reliable results, several filters were applied during the data analysis process. The key parameters examined at the sector level include organization size, sector tendencies, the distribution of "non-participation," the number of organizations, and measurement quality.

1. **Sector Profile Matrix**: A "Sector Profile Matrix" was created to describe the number of employees in organizations across each sector. The standard deviation of organization sizes within each sector was calculated, and an estimate was made for the expected size of organizations in each sector. This was then compared to the distribution of organizations that participated in the measurement, and the degree of alignment was assessed.
2. **Variance of Organization Size**: The variance in organization size distribution was analyzed both in detail (fine division) and simplistically (coarse division). Additionally, the alignment between the number of zeros in the sector profile matrix and the expected distribution (based on the sector's nature and defined profile) was measured and calculated. The result is a value representing the degree of alignment between the actual organization size distributions across sectors and the expected distributions.
3. **Sector Size Definition**: A characteristic size was defined for each sector, reflecting the desired number of participating organizations. These were broken down into quartiles of 3, based on the findings from the previous analysis. Narrow sectors require fewer participating organizations, while broader sectors require more. A "desired/actual" ratio was calculated for the number of organizations participating in each sector.
4. **Data Quality Assessment**: An evaluation of the quality of information received from each sector was conducted based on the interviewer's assessment, with scores ranging from 0 to 1. The various parameters (degree of fit, distribution of zeros, organization size ratio, and data quality) were then consolidated to yield a final value between 0 and 1, indicating the level of confidence or "maturity" of each sector, and determining whether it should be included in the index.
5. After several iterations, a threshold of 0.6 was established. Sectors with a score above this value were presented at the sector level (innovation map and characteristic graphs), while those below this threshold appeared only in general maps and graphs.

Data Update and Confidence Levels

The general assessment suggests that the information stored in the system at the organizational level should be updated at least once every three years. Beyond this period, the data becomes outdated and is not automatically included in measurements. The sector confidence level is updated before preparing each report, ensuring that only the relevant sectors are selected for index participation. The Institute is actively working to refine the methodology for future innovation reports.

Appendix D – Industry Classification by Technology Level

The sectors are classified into three levels based on their level of investment in R&D, according to data from the Central Bureau of Statistics (CBS), with the assistance of ChatGPT.

high-tech	Cybersecurity
high-tech	Biotechnology, Pharma, and MedTech
low-tech	Construction and Real Estate
mid-tech	Healthcare and Welfare Services
mid-tech	Engineering, Manufacturing, and Industrial Products
low-tech	Holding and Maintenance Companies
low-tech	Education and Academia
high-tech	Academic and Industrial Research
mid-tech	Electricity and Water
high-tech	Telecommunications
high-tech	Semiconductors, Electronics, Electrical Engineering, and Hardware
low-tech	Public Institutions
high-tech	Data and Information Analysis
low-tech	Retail
high-tech	Automotive and Auto-Tech
low-tech	Food Networks
low-tech	Professional Services (Accountants, Lawyers, Tax Consultants)
low-tech	Business Services
high-tech	Financial Services, FinTech, and Insurance
low-tech	Tourism, Restaurants, and Leisure
mid-tech	Aviation and Transport
mid-tech	Oil, Gas, Mining, and Chemicals Industry
low-tech	Food and Beverage Industry
low-tech	Cosmetics and Beauty
low-tech	Municipalities and Local Authorities
low-tech	Design and Arts
low-tech	Social
low-tech	Advertising and Marketing Companies
low-tech	Fashion and Textiles
mid-tech	Agriculture and Agritech
low-tech	Logistics
low-tech	Press and Media
high-tech	Energy
high-tech	Investments and Acceleration
high-tech	IT and Information Systems

Appendix E – Sector Strength

Sector strength is measured as a relative score in comparison to other sectors, reflecting the level of investment and commitment by organizations in Israel towards its advancement. A score above 1 indicates that the sector is stronger than the average.

Branch	Average	Relative Strength	Standard Deviation	Relative Stability
Automotive and Auto-Tech	88	1.20	5.57	2.16
Data and Information Analysis	82	1.12	10.06	1.20
Semiconductors, Electronics, Electrical Engineering, and Hardware	82	1.11	9.21	1.31
Academic and Industrial Research	80	1.09	13.82	0.87
Biotechnology, Pharma, and MedTech	79	1.08	13.30	0.91
Business Services	79	1.07	12.53	0.96
Financial Services, FinTech, and Insurance	79	1.07	10.09	1.19
Investments and Acceleration	78	1.05	15.94	0.76
IT and Information Systems	77	1.04	9.24	1.31
Cybersecurity	77	1.04	10.55	1.14
Food and Beverage Industry	75	1.02	10.17	1.19
Engineering, Manufacturing, and Industrial Products	74	1.01	14.96	0.81
Education and Academia	74	1.00	15.63	0.77
Logistics	73	0.99	16.14	0.75
Municipalities and Local Authorities	73	0.99	11.17	1.08
Construction and Real Estate	73	0.98	14.54	0.83
Aviation and Transport	72	0.98	13.14	0.92
Agriculture and Agritech	72	0.98	18.08	0.67
Healthcare and Welfare Services	71	0.97	15.19	0.79
Design and Arts	70	0.95	13.05	0.92
Retail	69	0.93	9.37	1.29
Social	63	0.86	14.89	0.81
Public Institutions	62	0.84	15.16	0.80
Holding and Maintenance Companies	58	0.78	10.91	1.11

* Relative Strength – The ratio between the sector average and the overall average.
** Relative Stability – The ratio between the average standard deviation and the sector-specific standard deviation.

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Appendix F – Outlier Values Relative to the Average

Category	Maximum value compared to the average	Standard Deviation	Innovation Type
IT and Information Systems	37	11	Business Model Innovation
Semiconductors, Electronics, Electrical Engineering, and Hardware	18	7	Service/Product Innovation
Semiconductors, Electronics, Electrical Engineering, and Hardware	29	9	Process Innovation
Automotive and Auto-Tech	22	9	Customer Experience (CX)
Automotive and Auto-Tech	28	9	Branding
Data and Information Analysis	20	9	Digital Transformation (DT)
Data and Information Analysis	21	9	Internal Innovation
Automotive and Auto-Tech	35	8	Open Innovation
Biotechnology, Pharma, and MedTech	76	9	Disruptive Innovation
Automotive and Auto-Tech	67	12	Collaborative/ Ecosystems Innovation
Semiconductors, Electronics, Electrical Engineering, and Hardware	23	8	Incremental Innovation
Semiconductors, Electronics, Electrical Engineering, and Hardware	37	10	Radical Innovation

Category	Maximum value compared to the average	Innovation type
Social	-38	Business Model Innovation
Social	-20	Service/Product Innovation
Social	-28	Process Innovation
Holding and Maintenance Companies	-39	Customer Experience (CX)
Holding and Maintenance Companies	-36	Branding
Holding and Maintenance Companies, Logistics	-18	Digital Transformation (DT)
Holding and Maintenance Companies	-37	Internal Innovation
Holding and Maintenance Companies	-30	Open Innovation
Holding and Maintenance Companies	-33	Disruptive Innovation
Holding and Maintenance Companies	-52	Collaborative Innovation
Social	-24	Incremental Innovation
Social	-24	Radical Innovation

About The Institute Team,

Avi Sagi

CEO and Co-Founder of the Israeli Innovation Assessment Institute (INSA). Expert in Open Innovation Strategy and Creative Thinking. Avi is an innovation researcher, entrepreneur, writer, and lecturer in entrepreneurship and innovation. He serves as a senior advisor on innovation strategy for organizations across various industries. Avi holds a degree in Aeronautical and Space Engineering from the Technion and has extensive experience in developing complex systems, including advanced radar systems, satellite systems, and the Beresheet spacecraft.

Previously, Avi was a senior member of the innovation leadership team at Israel Aerospace Industries, where he established the organization's innovation framework. He is also a multidisciplinary designer and manages a therapeutic clinic for alternative medicine. Avi has a passion for sustainability and fashion research, having been actively involved in these fields for over a decade.

Avi volunteers for organizations like WIZO and Rotary to promote second-hand culture in Israel and contributes to Space-IL and Horizon to foster space culture in the country. He is Co-Chairman of the Innovation Excellence Center at the Information Technology Bureau, a member of its steering committee, and leads the senior mentors' forum to promote innovation within organizations. Avi is a member of the international committee defining the ISO 56001 innovation management standards for organizations and leads the Open Innovation Israel community.

He is also the CEO and Co-Founder of P20, a multidisciplinary ecosystem team that helps management teams drive organizational innovation. Additionally, Avi co-founded "Besha'a Tova," a volunteer organization that assisted workers affected by the Covid-19 pandemic to re-enter the workforce.

Michal Zigelman

Physicist, expert in strategy, innovation, and decision-making under complexity and uncertainty, Founder and CEO of Duality, a strategic consulting firm focused on helping organizations grow and stay competitive in environments marked by disruption and innovation. Co-Founder of INSA, the Israeli Innovation Assessment Institute.

Michal is certified by Harvard Business School in Disruptive Strategy and Competitive Strategy in the AI era. She developed the Bimodal Management™ model, a strategic management approach designed for disruptive markets, which is applied in consulting and executive training to help organizations leverage innovation and emerging technologies like artificial intelligence.

She lectures in executive development programs at Lahav, Tel Aviv University, and the Israel Directors Union (IDU). Michal also mentors entrepreneurs at the Adelson School of Entrepreneurship at Reichman University (IDC) and is a leading figure at the Innovation Center at the Israeli Information Technology Bureau.

Michal advises major companies in business, defense, and government sectors, training senior executives and entrepreneurs in decision-making, risk management, and communication. Her expertise lies in business strategy, AI adoption, innovation, and competitive strategies for navigating dynamic markets.

Prof. Gil Avnimelech

Co-Head of the Strategy, Innovation, and Entrepreneurship specialization in the MBA program, Founder and Director of the Entrepreneurship and Innovation Center, and Senior Faculty member at Ono Academic College.

Prof. Avnimelech has held several leadership roles, including Vice Dean for Teaching (3 years), Vice Dean for Research (5 years), and Deputy Director of the BA Program in Business Administration at Ono Academic College. He holds a Postdoctoral degree from UNC-CH and Tel Aviv University's Faculty of Business Administration, and a Ph.D. in Entrepreneurship from Ben Gurion University's Faculty of Management.

His research interests focus on entrepreneurship, innovation, open innovation, entrepreneurial finance, government innovation policies, and entrepreneurial ecosystem development. Prof. Avnimelech has published over 30 articles in top entrepreneurship journals and 15 book chapters. Prof. Avnimelech advises and supports startups and mature companies in entrepreneurship and open innovation.

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