

IBM Institute for Business Value

More than magic

How the most successful organizations innovate



Tapping data and analytics to innovate faster and at scale

To succeed in today's environment, businesses need to lead through increased complexity and volatility, drive operational excellence and enable collaboration across enterprise functions, develop higher quality leadership and talent, manage amidst constant change and unlock new possibilities grounded in data. The IBM Strategy and Analytics practice integrates management consulting expertise with the science of analytics to enable leading organizations to succeed.

By Kazuaki Ikeda, Anthony Marshall and Abhijit Majumdar

Leading organizations have a clear focus on innovation. They recognize that effective and sustained innovation drives both value creation and competitiveness. In a 2014 survey of more than 1,000 C-suite executives and their direct reports conducted by the IBM Institute for Business Value in collaboration with the Economist Intelligence Unit, we found that the most successful organizations do indeed approach innovation differently. The top 9 percent of organizations in both operating efficiency and revenue growth pursue distinct strategies in innovation organization, culture and process. This executive report highlights how the most successful organizations approach innovation and identifies specific strategies that can help all organizations innovate like an outperformer.

Outperforming organizations are

37% more likely to embrace open forms of innovation

79% more likely to establish dedicated innovation teams

48% more likely to measure the financial returns from innovation investments

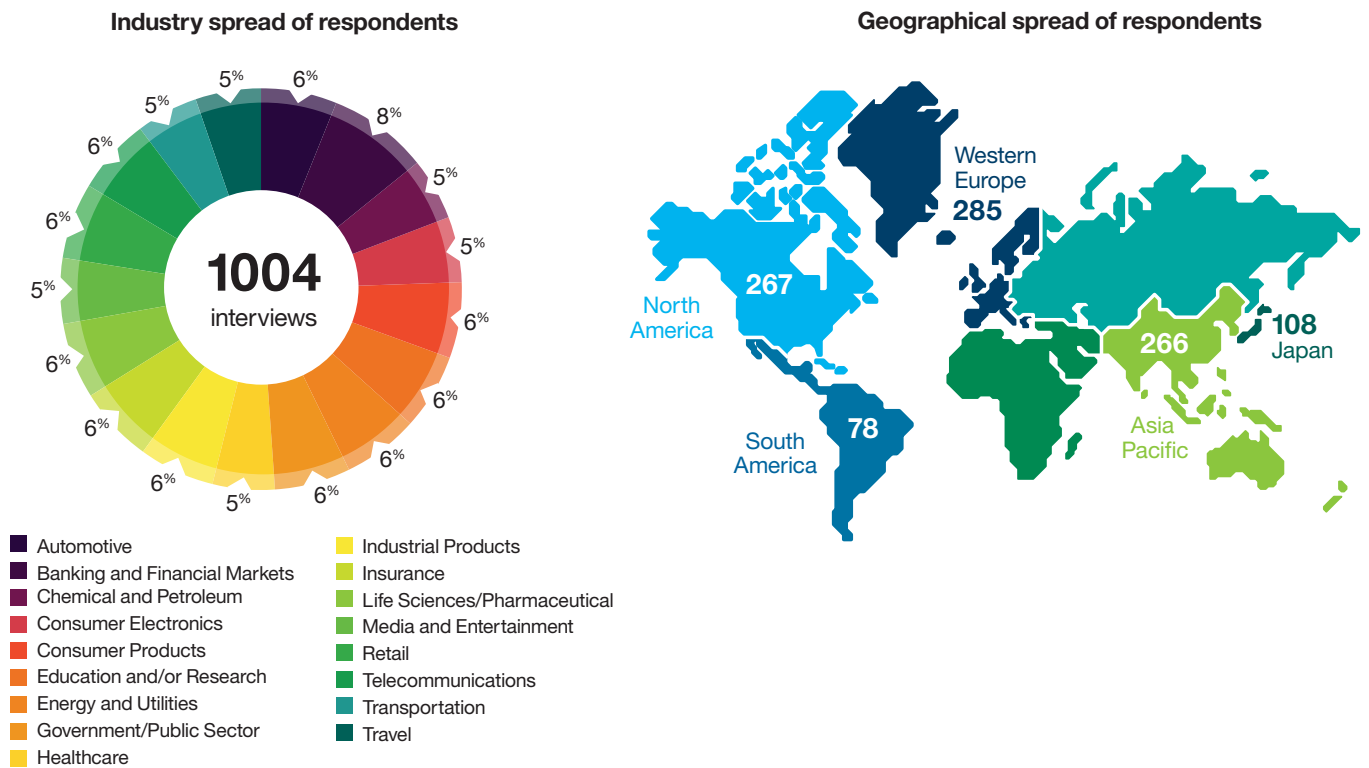
As documented in the 2013 IBM Institute for Business Value executive report, “Insatiable Innovation: From sporadic to systemic,” outperforming organizations combine product, operational and business model innovation to thrive in a challenging and complex environment.¹

However, the nature of innovation is changing. Innovation has become more open and increasingly occurs within economic ecosystems. Innovation today often involves teamwork and collaboration. While the “magic” of innovation still exists, breakthroughs are driven by science and numbers, data and insight. For today’s business leaders, innovation is more than magic – it is the art and science of anticipating the future. It is about understanding what the full potential of new technologies will be, of knowing what customers need and want, even before they know it themselves. And it is about building organizational and ecosystem-wide capabilities to execute and deliver. Successful organizations align innovation activities with business objectives, and they are not afraid to experiment. They see innovation as a critical business process, an enabler and a cultural imperative.

In developing this executive report, the IBM Institute for Business Value collaborated with the Economist Intelligence Unit to survey 1,004 C-suite level executives or their direct reports from 17 industries around the globe (see Figure 1). We analyzed survey data using regression analysis to identify correlations between business performance and innovation. We then developed an econometric model and performed common factor and regression analyses on selected innovation survey respondent data. We identified key innovation themes associated with financial outperformance.

Analysis revealed three key categories that separate outperformers from the rest:

- 1. Organizational structures and functions that support innovation** – The most successful organizations align innovation activities directly with business objectives, pursue “open” innovation structures and create specialized innovation teams.
- 2. Cultural environments to make innovation thrive** – The most successful organizations maintain a clear focus on innovation across all business activities, encouraging innovative behaviors and finding ways to sustain innovation momentum.
- 3. Processes to convert ideas into innovation** – The most successful organizations source new ideas from diverse locations, often leveraging big data and analytics; innovation is funded separately and measured rigorously.



Source: IBM Institute for Business Value.

Figure 1: Respondents represent a wide range of public and private sector organizations globally across 17 industries.

Innovation is strongly correlated with value creation

Examination of how the most innovative companies compare to others in the market provides evidence of how closely innovation is tied to financial performance (see Figure 2).²

The automotive industry provides an excellent example of the role innovation plays in adding value and creating new types of disruption. The traditional automotive value chain begins with OEMs, such as manufacturers of tires, engine components, upholstery, safety glass and related materials. Then it moves to the auto manufacturer, to the dealerships and, ultimately, to aftermarket, such as maintenance and insurance.

Today’s emerging mobility ecosystem is radically altering the landscape, however. Auto parts are beginning to be manufactured by 3D printing. Robotics significantly reduce labor costs, improve manufacturing tolerances and increase efficiency.

Charging stations are becoming more common to service electric and hybrid vehicles. Clean diesel fuel and gasoline reduce

the vehicle carbon footprint. Increasingly autonomous vehicles provide collision alerts, automated braking, driver-unassisted parking and more. GPS provides route navigation and congestion avoidance. Telematics provide instant product information. Instant-access shared transportation is becoming available. And that is just a few of the changes innovation is bringing to a single industry. Examples of other emerging industry ecosystems founded on innovation are numerous and growing, including healthcare and life sciences, telecommunications, retail, hospitality and transportation, electronics and utilities.

in•no•va•tion \, i-nə-’vā-shən\ Noun

Origin: Latin, 1548

Derives from the *Latin* word *innovatus*, past participle of *innovare*, “to make changes; do something in a new way,” from *in-* + *novus* — “new”

-Merriam Webster Dictionary

BCG 25 Most Innovative Companies in 2013

- | | |
|--------------------------|-------------------------|
| 1. Apple Inc | 14. Volkswagen AG |
| 2. Samsung Electronics | 15. The Coca-Cola Co |
| 3. Google Inc | 16. Hewlett-Packard Co |
| 4. Microsoft Corp | 17. Hyundai Motor Co |
| 5. Toyota Motor Corp | 18. Honda Motor Co Ltd |
| 6. IBM | 19. Audi AG |
| 7. Amazon.com Inc | 20. Daimler AG |
| 8. Ford Motor Co | 21. Wal-Mart Stores Inc |
| 9. BMW | 22. Lenovo Group Ltd. |
| 10. General Electric Co | 23. Procter & Gamble Co |
| 11. Sony Corp | 24. Bayer AG |
| 12. Facebook Inc * | 25. LG Electronics Inc |
| 13. General Motors Co ** | |

Sources: BCG Most Innovative Companies, 2013; Standard & Poor Global 1,200.

Market capitalization growth

BCG 25 Most Innovative Companies vs. S&P Global 1200

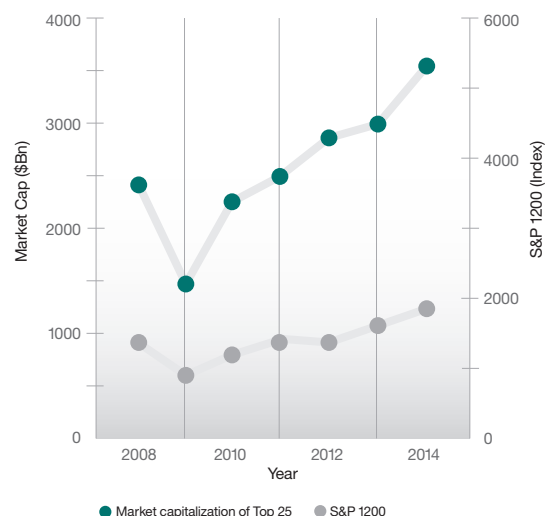


Figure 2: Innovative companies outpace the overall market in value creation.

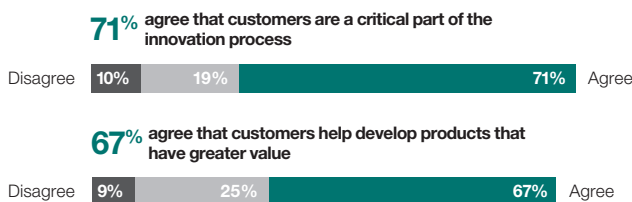
The nature of innovation is changing

Increasingly, innovation is occurring within what we call the everyone-to-everyone (E2E) economy. E2E encompasses a fundamental shift in mindset from “me” to “we.”³ In years past, organizations pushed out products and services to customers and then told customers why they were valuable. Today, continuing digital evolution and revolution, combined with a transition from traditional market-based economic structures to an ecosystem-based environment, has altered innovation in three distinct ways:

1. Consumers have become directly involved in innovation.

Technology and hyper-connectedness have been catalysts for the collaboration of consumers and organizations across the gamut of value-chain activities: co-design, co-creation, co-production, co-marketing, co-distribution and co-funding. Consumers and organizations increasingly work together to create value in an environment of transparency and trust (see Figure 3). For example, Xiaomi, a leading smartphone producer in China, has a business model with no marketing budget or sales team. To build customer loyalty, the company releases a new version of its software every week in response to user feedback.⁴

Consumer involvement creates more value

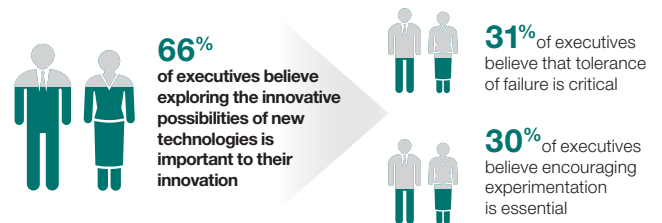


Source: IBM Institute for Business Value.

Figure 3: Innovation is occurring outside traditional paradigms – consumers are participating directly in innovation processes.

2. Technology is at the core of innovation. New technology enables organizations to respond faster to customer needs and build compelling new capabilities and business models (see Figure 4). For example, users of Foldit, an online game that provides for crowd-sourced protein folding, deciphered the retroviral protease of the Mason-Pfizer Monkey Virus in ten days, a problem that had challenged scientists for more than 12 years.⁵

Gap between the emotional desire to explore the possibilities of innovation, and the real requirements of innovation

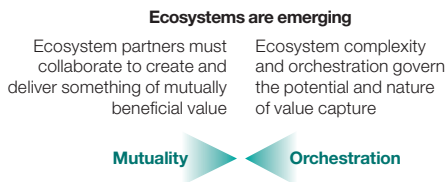
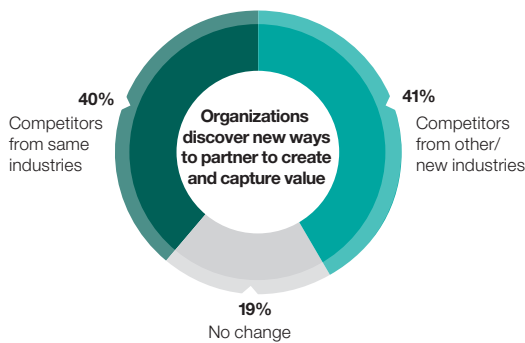


Source: IBM Institute for Business Value.

Figure 4: Technology is typically at the center of innovation, but tolerance of failure and encouragement of experimentation remains limited.

3. Ecosystems are defining new types of innovation. An ecosystem is a complex web of interdependent enterprises and relationships aimed at creating and allocating business value (see Figure 5). An example of this development is the partnership between Quirky and GE. GE is crowdsourcing innovation through Quirky, reducing risk and sharing revenues with inventors who make breakthroughs.⁶

Organizations discover new ways to partner to create and capture value



Source: IBM Institute for Business Value.

Figure 5: Ecosystems are emerging and driving more open approaches to innovation.

Kinect provides motion-sensing input device to enable full-body gaming and voice control

Kinect opened up innovation through an incubator program that provided start-ups US\$20,000 to explore ideas. For example, two organizations, Styku and GestSure Technologies, have taken Kinect technology far beyond its Microsoft Xbox roots.

Styku is piloting virtualfitting-room technology for size recommendations and clothing visualization, while GestSure Technologies has created a hands-free technology for surgeons in operating rooms to directly control 3D imaging in a sterile manner.

This willingness to embrace partnering enabled by mobile and collaborative ecosystems multiplies Kinect’s potential applications.⁷

The most successful organizations do innovation differently

Only 9 percent of organizations surveyed in our 2014 Global Innovation survey outperform others in both revenue growth and operating efficiency (profitability). We asked executives to rank themselves against their competitors along the two metrics. Using the survey respondent’s ranking, we identified three specific categories of performance: outperformers, underperformers and peer performers (see Figure 6).

Performance composition of 2014 IBM Institute for Business Value/EIU survey of 1004 global business executives

Three performance categories emerged



Source: IBM Institute for Business Value.

Figure 6: Three performance categories reveal what separates outperformers from others. The most successful organizations do innovation differently.

Armed with this categorical classification, we can answer two important questions. What do the top organizations do differently when it comes to innovation? And how do they consistently outperform their peers?

We found that outperformers:

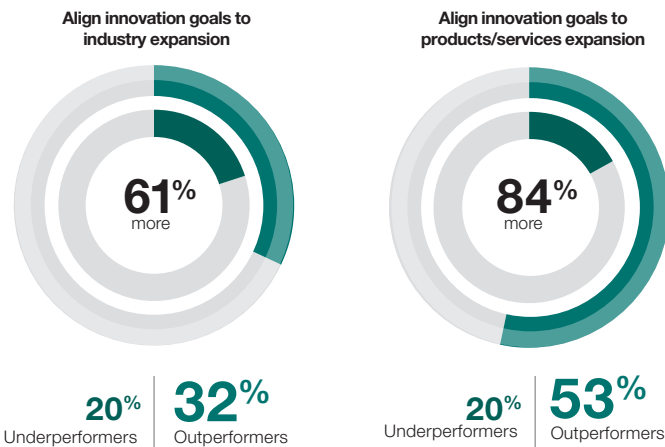
1. Build an organization that encourages innovation
2. Create a culture that fosters innovation
3. Design processes that enable innovation.

Outperformers approach innovation differently

The most successful companies create innovation structures and functions that align with and support their underlying business mission. They:

1. Align innovation with business goals – They promote innovation objectives related to their business objectives (see Figure 7). For example, outperformers align innovation goals to the expansion of products and services 84 percent more than underperformers. They align innovation goals to industry expansion 61 percent more and are 30 percent more likely to have senior management buy-in around innovation processes and initiatives.

Outperformers align their innovation activities to new industry opportunities and/or new products and services



Source: IBM Institute for Business Value.

Figure 7: Outperforming organizations explicitly align their innovation strategy and objectives to clear business goals.

Kraft Foods is redefining its innovation strategy to focus on a smaller number of very powerful innovations

Kraft Foods evolved its strategy from focusing on quantity to the quality of new ideas. The result has been the birth of three new \$100 million platforms in 2010: MiO beverage mixes, Oscar Mayer Selects deli meats and Velveeta Skillet packaged meals.

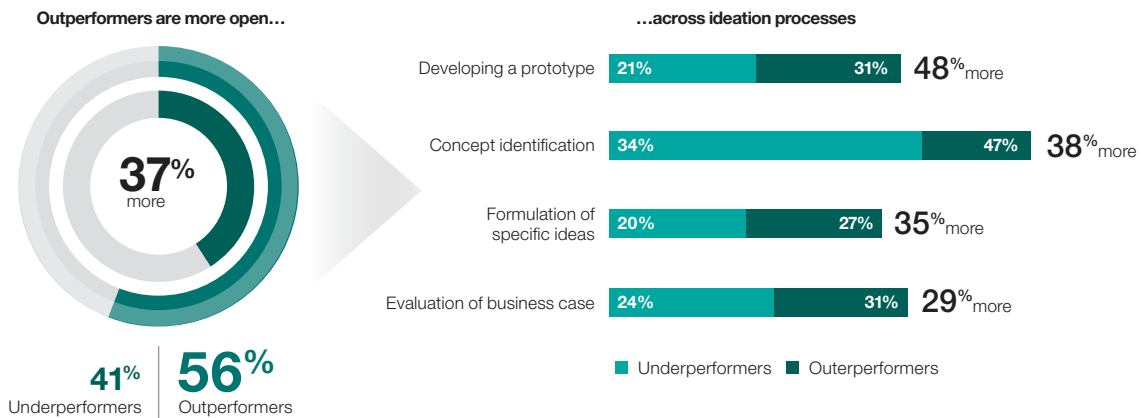
Kraft Foods has also promoted changes to its innovation culture. Rather than innovation being perceived as a limited career track, Kraft Foods began celebrating the success of its innovators, making them the heroes or rock stars of the company.⁸

2. Structure open forms of innovation – Outperformers build robust structures to support open forms of innovation (using internal and external ideas and/or embracing open innovation concepts such as crowd sourcing). Twenty-four percent more outperforming organizations consider open environments more conducive to effective innovation than underperformers. And 10 percent more say that open environments lead to better and faster idea development. Thirty-seven percent more outperformers use open innovation processes than underperformers, and they are much more likely to adopt open strategies and approaches to ideation processes (see Figure 8).

AkzoNobel's open innovation drives new product lines, solves technical challenges and boosts carbon-friendly research⁹

AkzoNobel, the Dutch paint and chemicals giant, uses open innovation to seek out partnerships and solicits ideas through its online portal, Open Space. Open innovation engagement has created a number of success stories, such as better beverage cans, carbon-friendly research, low-carbon paint and the do-it-yourself repair solution, Stickerfix.

Outperformers are more “open” across innovation processes



Source: IBM Institute for Business Value.

Figure 8: Outperforming organizations embrace more “open” forms of innovation.

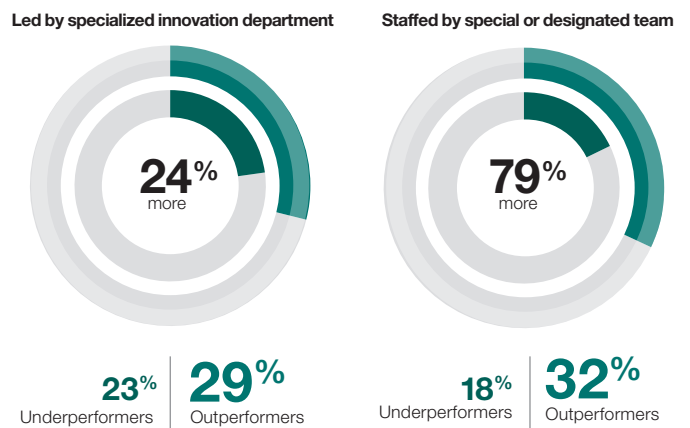
3. Create specialized teams – Outperforming organizations are much more likely to create dedicated innovation teams (see Figure 9). Specifically, outperformers are 79 percent more likely establish and maintain a special or designated innovation team, and those teams are 24 percent more likely to be part of a specialized innovation department.

Philips’ goal is to create meaningful innovations to improve lives¹⁰

Philips R&D, founded in 1914, is one of the world’s largest corporate research organizations, encompassing Research, Innovation Services, Intellectual Property & Standards , Innovation Campus and Healthcare Incubators and Design.

Philips R&D employs about 5,000 professionals globally and has an annual budget of more than 7 percent of annual sales. Such investment in innovation has paid dividends. In Germany, for example, innovation leadership in oral healthcare resulted in a market share improvement.

Establishment of dedicated innovation teams is highly correlated with performance



Source: IBM Institute for Business Value.

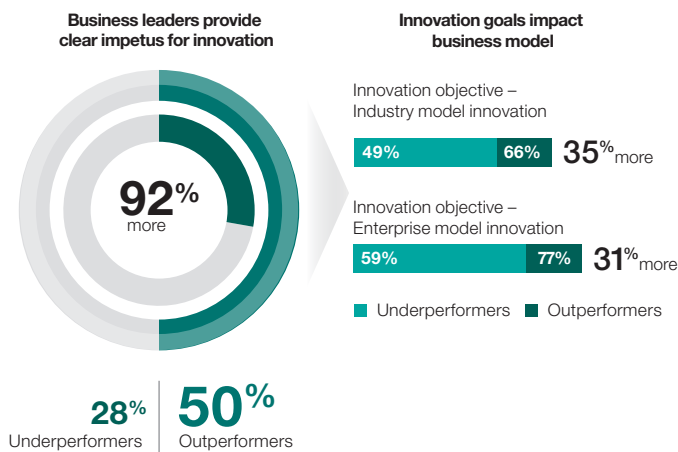
Figure 9: Outperforming organizations are more likely to dedicate specialized teams to innovation.

Outperformers build organizational climates conducive to innovation

Creating cultures and environments in which innovation can thrive is crucial for successful innovation and is another differentiating characteristic of outperformers:

1. Lead with an innovation focus – Business leaders in outperforming organizations explicitly promote innovation as central to business activity. Leaders of outperforming organizations are 92 percent more inclined to provide a clear direction and impetus for innovation (see Figure 10). They are also more open to industry and enterprise model innovation. And they are 27 percent more likely to link innovation efforts with financial performance, requiring and expecting innovation to be associated with increased business value.

Outperforming organizations are open to creating disruptive new business models



Source: IBM Institute for Business Value.

Figure 10: Outperforming organizations have leaders who explicitly promote innovation as a central business objective.

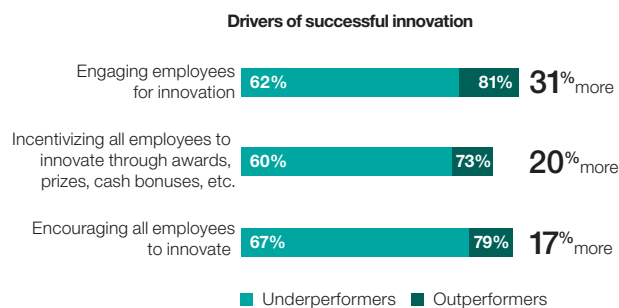
Umpqua Bank’s innovation strategy aims to deliver unique, socially rich, tech-enabled customer experiences¹¹

Innovation is a core business value to of Umpqua Bank’s strategic decision-making. In 2007, Umpqua launched an “Innovation Lab” to test new technologies and conceive new ways to create improved banking experiences for customers

Despite rapid expansion, Umpqua’s continues to engage customers by offering comfortable, socially rich and and tech-enabled multipurpose branches.

2. Encourage innovative behaviors – Outperforming organizations are 17 percent more likely to actively encourage innovation by employees through specific incentives and rewards than underperformers. And they are 31 percent more likely to engage employees directly in innovation (see Figure 11). Importantly, outperforming organizations also have a greater tolerance of failure. They are 25 percent more likely to accept that some innovation projects will not succeed.

Outperforming organizations encourage innovative behaviors with rewards and incentives



Source: IBM Institute for Business Value.

Figure 11: Outperforming organizations actively encourage their employees to innovate

Maruti Suzuki engineers have freedom to drive innovation¹²

India’s Maruti Suzuki embraces an open door policy to boost the spirit of innovation.

Engineers are free to innovate and to apply “anything they have learned from their colleges” that could be new. The automaker owns more than 100 patents, the majority of which were developed by its own engineers.

This innovative approach has contributed to significant financial growth and improvement over recent years.

McDonald’s listens to customers to motivate product and operational innovation¹³

Reflecting the pulse of the customers, McDonalds has started an “after midnight” menu from 12 - 4 a.m. featuring items from both its dinner and breakfast menu. This combined menu appeals to millennials who are used to eating what they want and when they want, even during “after hours”.

McDonalds continues to create other market-specific innovations, such as McCafe, which have led to increased sales, new customers and a more wholesome image.

3. Sustain innovation momentum – Outperforming organizations are 37 percent more likely to promote agility in their culture and way of doing business. They are also 29 percent more likely to stay ahead of changing customer attitudes and expectations (see Figure 12). Outperformers are 26 percent more likely to consciously and explicitly build an environment of trust among stakeholders in pursuing innovation.

Outperformers have clear processes to source, fund and measure innovation

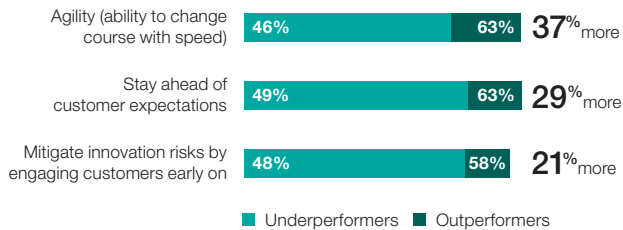
The most successful organizations source and directly fund new ideas. They are also more likely to measure the effectiveness of their innovation program to demonstrate the value created. They:

1. Generate new ideas from a wide range of sources

– Outperforming organizations are more likely to welcome inputs into ideation processes across the board. They are 23 percent more likely to use big data and 79 percent more likely to use analytics to identify new innovative opportunities. They are 35 percent more likely to use customer surveys and 156 percent more likely to use competitions. And they engage employees (31 percent) and channel partners (37 percent) in idea generation much more frequently (see Figure 13).

Outperforming organizations are better at staying ahead of the market

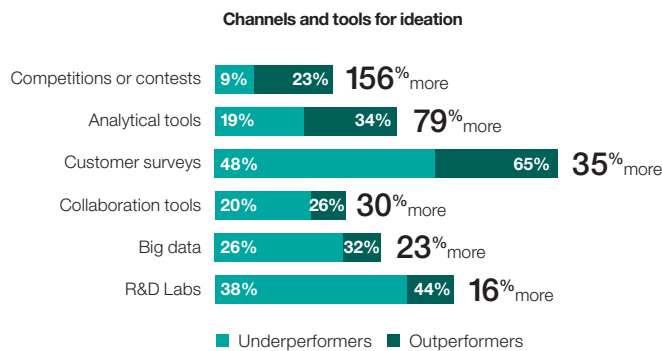
How leading organizations sustain innovation momentum



Source: IBM Institute for Business Value.

Figure 12: Outperforming organizations are more agile in sustaining innovation momentum.

Outperforming organizations use more channels across the board to source new ideas



Source: IBM Institute for Business Value.

Figure 13: Outperforming organizations get new ideas from a variety of sources.

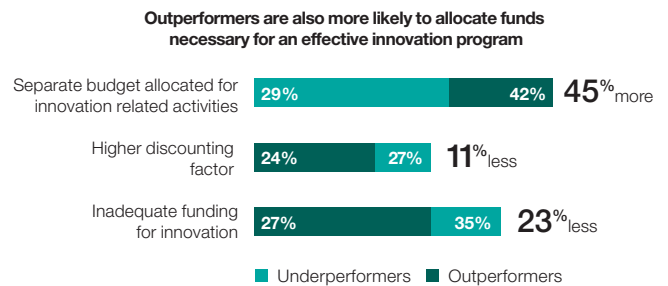
BMW turns to online communities for open innovation¹⁴

German automaker BMW engages customers through open innovation contests to design cars of the future. The company considered the crowd’s discussion and voting in selecting the design theme for the BMW Urban Driving Experience.

Specifically, BMW was able to encourage new ideas from customers by providing a platform for consumer engagement, adding new insight into ideation processes and facilitating deeper customer connections. BMW also encourages employee engagement in innovation through its global research and innovation network.

2. Fund innovation – Outperforming organizations are more likely to approach innovation with the same disciplined approach that they would any other business process. They are 45 percent more likely to allocate dedicated funding to innovation and use business case methodologies to make go/no-go decisions on specific innovations. They are also more likely to fund innovation activities at sufficient levels for maintenance of an effective innovation program (see Figure 14).

Outperforming organizations allocate a specific funding bucket for innovation



Source: IBM Institute for Business Value.

Figure 14: Outperforming organizations fund innovation separately from other projects.

Shell Technology Ventures invests in companies for development and deployment of new technologies¹⁵

Shell Technology Ventures works closely with entrepreneurs and early-stage companies, as well as the venture capital firms that invest in them.

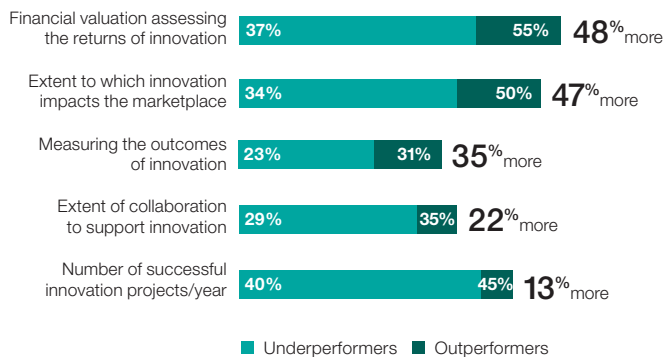
3. Measure innovation outcomes – Outperforming organizations hold innovation initiatives accountable to clear financial objectives. They are 35 percent more likely to explicitly measure the outcome of innovation initiatives. Specifically, they are 48 percent more likely to measure financial return on investments from innovation and 47 percent more likely to assess its impact on their markets (see Figure 15). By being methodical and promoting accountability and transparency in ROI of innovation spending, outperformers are better able to justify its continuing funding. As such, outperforming organizations are more likely to secure stable investment and minimize the vagaries of quarterly or annual budgeting volatility.

Canon makes innovation and technological advances central to its corporate DNA¹⁶

Canon promotes innovation throughout its corporate activities, beginning with manufacturing. The company engages in basic research in unexplored fields, aiming to spark innovation and create new or previously untapped markets.

This commitment to research has paid off in the development of a range of patented products and processes. Canon is a leader in patents granted both in Japan and internationally.

Measures of innovation effectiveness



Source: IBM Institute for Business Value.

Figure 15: Outperforming organizations measure financial return on investments from innovation.

Innovation lessons from the most successful performers

Innovation organization

Create impact from innovation resources. Idea generation processes will inevitably produce far more good ideas can be funded. Scarce funds and people resources limit the number and extent of innovation projects. Focus on those most aligned to overall business goals.

Open up innovation processes. Establishing open forms of innovation provides increased depth and relevance to innovation initiatives. Provide employees the tools and physical/virtual environments to engage in open collaboration. Allow them to interact with a range of external parties. Establish governance to ensure regulatory compliance and protect intellectual property.

Establish dedicated innovation teams. A dedicated innovation group can fulfill two important roles: provide management and governance for the overall innovation program and support specific innovation activities. Support can include facilitation of new ideas, collaboration support and assistance in business case development.

Innovation culture

Place innovation at the organization's core. Innovation can underpin all aspects of day-to-day business, from interactions with customers, to operations. But innovation needs to be more than semantic – hold innovation accountable to produce real value creation. Nurture more disruptive forms of business model innovation centrally to avoid organizational resistance.

Build a climate of innovation. Innovation works best when it becomes a philosophy, broadly applied through the organization. With a strong innovation culture, employees naturally collaborate and support new thoughts and initiatives. Give people the time and space they need to innovate. Provide incentives and visible recognition designed to promote innovative behavior and reduce conservatism.

Prioritize agility as a critical capability. Speed and flexibility will be the defining features of successful innovation. Innovation is becoming insatiable – requiring continuous injections of new ideas and initiatives. Staying ahead of changes in customer aspirations will be a crucial part of any successful innovation strategy.

Innovation process

Build ideation platforms and competencies. Ideas are a critical input to innovation. Poor ideas limit the potential for value creation. An open, flexible idea generation platform, coupled with strong ideation and facilitation skills and robust idea evaluation processes can drive substantial benefits. Insights from data and analytics can provide another valuable source of fresh ideas.

Secure an innovation funding stream. Innovation works best with stable, distinct funding. Creating a formulaic funding source for innovation can protect it from the perils of quarterly budgeting decisions. Crowd-funding or allocating a specific percentage of cost savings to innovation can help provide a more stable funding arrangement.

Use quantitative metrics to evaluate innovation. Financial metrics provide clear, consistent discipline to innovation funding decisions, but they are only part of the story. Other measures, such as likely market impact, can give added context to funding and gating decision making, potentially keeping alive projects that, while not break-even, are of major strategic importance to the business.

Conclusion

Innovative organizations outperform their competitors. The most successful innovators are able to create new types of business value in sustainable ways. But innovation is not some type of magic. It is a systematic discipline that can be embraced and adopted by all organizations. This executive report has identified and documented clear steps for all organizations to adopt those elements of innovation strategy that differentiate – organizational structures, organizational culture and organizational processes. By adopting these innovation elements, and adopting a more disciplined, rigorous approach to innovation, organizations can position to become the innovation leaders of the future.

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