



Innovating China

From “made in” to “imagined by”

Executive Report

IBM Business Analytics and Strategy

How IBM can help

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 Business Analytics and Strategy practice integrates management consulting expertise with the science of analytics to enable leading organizations to succeed.

Innovation — The key to future growth

China's meteoric growth over the past three decades has positioned the nation among the global economic elites. Companies such as Alibaba, Tencent and Jingdong in Internet services, Huawei in telecommunications, Lenovo in technology and Xiaomi in consumer electronics are international leaders in their fields. While innovation excellence is certainly present, other areas of Chinese business that are less innovative than these standouts might obtain some valuable innovation lessons from the world's leading and most innovative companies. A new IBM survey in cooperation with the Economist Intelligence Unit of more than 1,000 global executives helps reveal how China can capture more of the "magic" in its innovation.

Executive summary

In just 30 years, China has moved from being the 15th largest economy to, alongside the United States, the world's largest.¹ However, this rapid growth has not been without its challenges. Emerging forces are beginning to significantly impact Chinese businesses:

- *Expectations of Chinese customers are rapidly changing.* They are growing in sophistication as they are exposed to more and more global trends and influences. They are demanding ever-expanding features, experiences and business models. Like their counterparts elsewhere, Chinese consumers now expect to be served according to their individual preferences.
- *The Chinese economy is structurally evolving.* Rising costs in China are driving lower-skill manufacturing activities to alternative low-cost countries. As in many other highly developed economies, economic activity is shifting from traditional manufacturing to services and knowledge activities. The domestic market has become intensely competitive, with consumer demands beginning to outpace the ability of the economic infrastructure to respond.
- *Chinese companies are going global.* As Chinese companies expand beyond their domestic borders, they are constantly challenged by ever-evolving global competition. As a result, Chinese companies are recognizing the need to continuously develop new and compelling value propositions to remain competitive. Indeed, reason why many Chinese companies go global is to learn lessons from other markets to bring back to their their own core businesses. Companies in China are finding it imperative to develop market-specific offerings for divergent segments and environments.

Our analysis of responses to a global innovation survey of 1,004 executives (including 66 from China) across industries and countries, conducted jointly by the IBM Institute for Business Value and the Economist Intelligence Unit, revealed three key areas that separate outperforming organizations from the rest.



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.



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.



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.

To navigate these disruptions, organizations in China are rethinking how they do business —and in so doing, recognizing the need to embrace holistic innovation. In response, the Chinese government is already facilitating global competitiveness by developing business champions across strategic industries. Individual organizations also need to reposition innovation at the center of their own activities, and many are taking significant steps to do so, with some already seen as leading innovators in their own right, such as Tencent, Alibaba, Baidu, Xiaomi and BoE. China-based organizations looking to become more innovative can learn valuable lessons from best practices of global innovation outperformers.

As Chinese organizations more aggressively embrace holistic innovation, they are likely to find that, as in the rest of the developed world, innovation is becoming more open and collaborative. Innovation increasingly occurs within economic ecosystems. While the “magic” of innovation still exists, breakthroughs are increasingly 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 develop, execute and deliver.

This executive report outlines the key innovation characteristics of the world’s most successful companies—including those in China—and reveals clear steps that will help more Chinese organizations become part of this elite group.

Global innovation forces

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 1).²

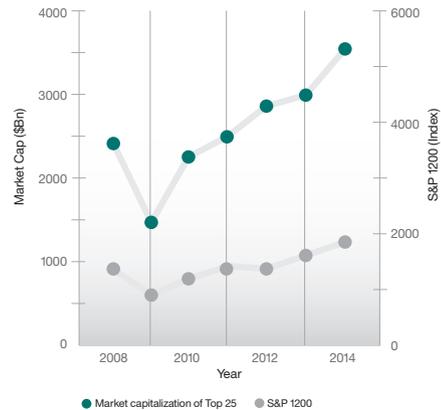
Figure 1

Innovative companies outpace the overall market in value creation.

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 ** | |

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



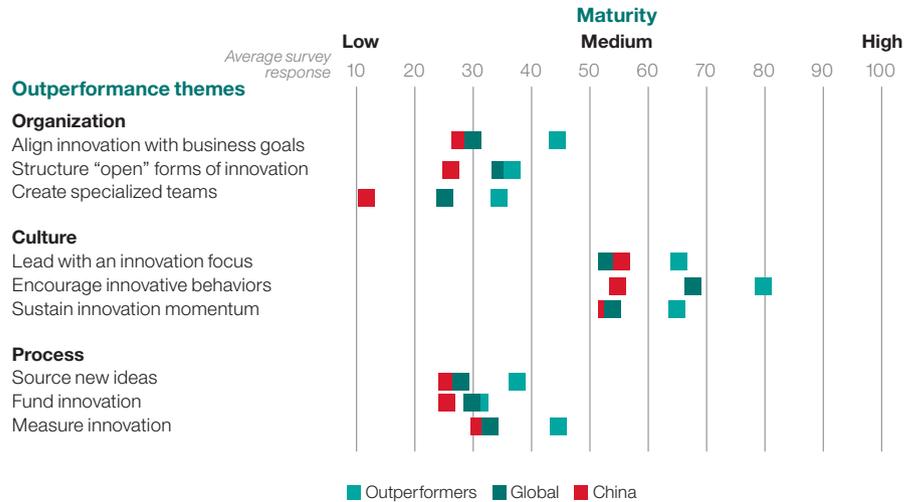
Source: The Most Innovative Companies 2013 survey by BCG; Standard & Poor's Global 1200 - revenues 2008 to April 2014

Despite periods of phenomenal growth, many Chinese companies still lag behind in the dimensions of innovation.

However, on average, many Chinese organizations lag behind other nations across key innovation dimensions (see Figure 2).³

Figure 2

Many Chinese organizations currently lag across key innovation dimensions



Source: IBM Institute for Business Value

To reverse this trend, our study showed that organizations in China should focus their attention on breaking through three major barriers to become more innovative:

Organizational barrier

In their response to the IBM/EIU survey, Chinese organizations indicated that they are currently less likely to align innovation goals to products/services expansion; innovation processes are less open across the ideation cycle; and they are less likely to have dedicated innovation teams.

Cultural barrier

Chinese executives told us they are less likely to provide clear direction and impetus for innovation; employee engagement in innovation is lower; and they are less likely to tolerate failure.

Process barrier

Chinese executives told us that Chinese companies are less likely to seek new ideas from employees, business units and channel partners; are less likely to develop business cases to support innovative initiatives; and are less likely to apply financial metrics to specific new innovations.

Figure 3

Innovation is occurring outside traditional paradigms – consumers are participating directly in innovation processes

71% of executives surveyed agree

that customers are a critical part of the innovation process



67% of executives surveyed agree*

that customers help develop products that have greater value

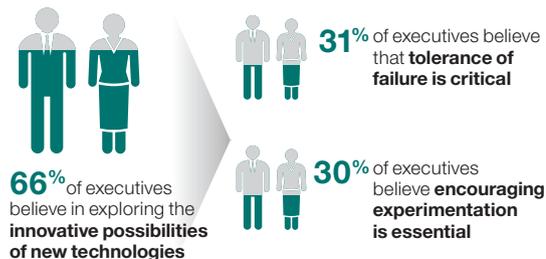


*Sum subject to rounding error
Source: IBM Institute for Business Value

Figure 4

Technology is typically at the center of innovation

BUT toleration of failure and encouragement of experimentation remains limited ... for now



Source: IBM Institute for Business Value

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.”⁴ 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 Chinese smartphone producer, 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.⁵
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.⁶ The Internet finance revolution in China would not have been possible without the development of large communities of online users and analytics about customer transactions.

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.⁷

Figure 5

Ecosystems are emerging and driving more open approaches to innovation

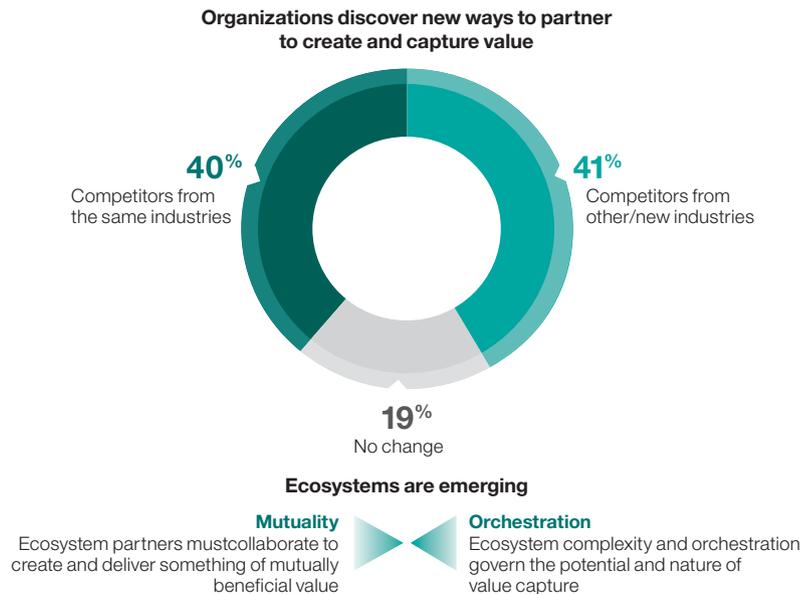


Figure 6

Our 2014 global innovation survey shows that 6 percent of organizations outperform in revenue and profitability growth

Three performance categories emerged**Outperformers**

Organizations that achieved **high revenue growth and high profitability**

6%

Underperformers

Organizations that achieved **low revenue growth and low profitability**

29%

Peer performers

Organizations with **any other performance combinations**

65%

Source: IBM Institute for Business Value

The most successful organizations do innovation differently

Only 6 percent of organizations surveyed in our IBM Institute for Business Value/Economist Intelligence Unit 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).

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

We found that the most successful organizations:

Build an organization that encourages innovation

Create a culture that fosters innovation

Design processes that enable innovation.

Build an organization that encourages innovation

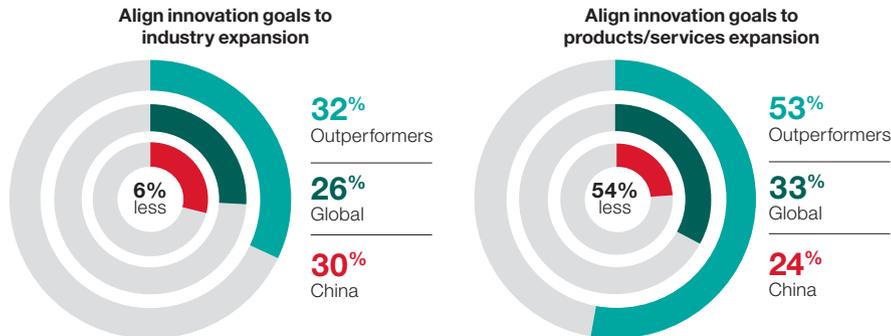
The most successful companies create innovation structures and functions that align with and support their underlying business mission. They:

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. The survey found that 17 percent more Chinese companies cite senior management buy-in as a barrier to their innovation.

Figure 7

Outperforming organizations explicitly align their innovation strategy and objectives to clear business goals

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



Source: IBM Institute for Business Value

Approaching innovation differently: Baidu embraces openness and collaboration

Baidu, which was founded in 2000 and is now the largest Chinese search engine company, has an agile and flat organizational structure with small and effective teams to drive innovation in new businesses. Baidu nurtures innovation through a lean hierarchical organization, few workplace rules, and a flexible, collaborative and open management style. Baidu invests in and establishes small, agile and effective teams focused on new businesses or projects. Agile teams are empowered with autonomy, and teams that meet their goals are rewarded with additional funding and resources.⁸

**A Chinese leader in open innovation:
BOE drives value through an open and
comprehensive innovation system**

BOE, founded in 1993, is a producer of semiconductor display technologies, products and services. BOE puts innovation at the center of its business philosophy by establishing an open and comprehensive innovation system. BOE has invested heavily in value creation activities, such as a structured innovation system, innovation driven talent development and innovation tools and platform. Specifically, it has developed “SOPIC” (Strategy, Organization, Process, IT and Control).⁹

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. Chinese executives surveyed were 14 percent less likely to consider that openness leads to better, faster idea development.

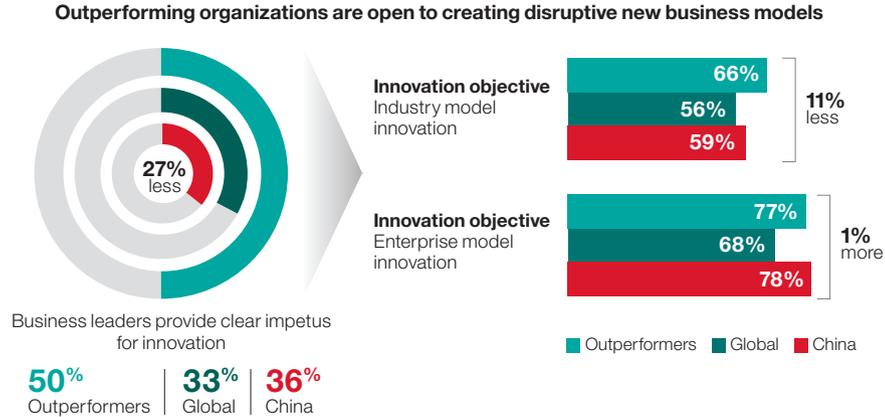
3. *Create specialized teams*—Outperforming organizations are much more likely to create dedicated innovation teams. Specifically, outperformers are 79 percent more likely establish and maintain a special or designated innovation team, and those teams are 24 percent more likely to be part of a specialized innovation department. Of the Chinese executives surveyed, 32 percent fewer consider products, services and operations in their innovation decisions and 70 percent fewer consider business units.

Create a culture that fosters innovation

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

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 8). They are also more open to industry and enterprise model innovation, and are 27 percent more likely to link innovation efforts with financial performance, requiring innovation to be associated with increased business value. Among Chinese executives interviewed, 18 percent fewer consider clear focus on performance as key to successful innovation.

Figure 8
Outperforming organizations have leaders that explicitly promote innovation as a central business objective



Source: IBM Institute for Business Value

Leading with an innovation focus: GREE promotes innovation investment based on future needs

GREE Electric Appliances Inc., founded in 1991, is among the world’s largest residential air conditioning companies. GREE rewards employees’ achievements in technological innovation and management innovation. It encourages innovative experimentation and tolerates any failures that inevitably result from continuous experimentation. GREE links R&D investment to its future development needs.¹⁰

Learning from each other: Tencent bolsters success through healthy competition between business units

Tencent, founded in 1998, is one of China’s largest Internet services platforms. Tencent encourages every department and every employee to innovate. The executive team promotes healthy competition across business units, learning from each others successes and occasional failures. Tencent promotes a culture with an intense focus on using innovation to fulfill customer needs. And Tencent invests heavily in gathering data to understand customer behavior and interests, which supports new innovation, research and product development.¹¹

A leading example of rewarding employees for good ideas: Yihaodian rewards innovative suggestions

Yihaodian, founded in 2008, is among China's largest business-to-consumer food E-commerce companies. Yihaodian established an innovation platform to collect ideas from employees, customers and business partners, rewarding the most innovative suggestions. The company incubates 30-40 projects each year, prioritized in terms of their impact on accelerating the achievement of overall business objectives and strategy, and achieving a robust ROI.¹²

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. Outperforming organizations also have a greater tolerance of failure. They are 25 percent more likely to accept that some innovation projects will not succeed. However, 51 percent fewer Chinese executives surveyed believe that their organizations will tolerate failure in innovation.

3. *Sustain innovation momentum*—Outperforming organizations are 37 percent more likely to promote agility in their culture and way of doing business. They are 29 percent more likely to stay ahead of changing customer attitudes and expectations (see Figure 9). Outperformers are 26 percent more likely to consciously and explicitly build an environment of trust among stakeholders in pursuing innovation. Among Chinese executives surveyed, 20 percent fewer believe that their organizations promote a culture of trust to support continuous innovation.

Figure 9

Outperforming organizations are more agile in sustaining innovation momentum



Source: IBM Institute for Business Value

Design processes that enable innovation

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

1. *Source 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. However among Chinese executives surveyed, 56 percent fewer source ideas from channel partners, 31 percent fewer from business units and 38 percent fewer from employees.

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. And they are more likely to fund innovation activities at sufficient levels for maintenance of an effective innovation program. Among Chinese executives surveyed, 46 percent identify challenges with innovation funding due to the absence of a financial business-case.

3. *Measure innovation outcomes*—Outperforming organizations hold innovation initiatives explicitly accountable to clear financial objectives. They are 35 percent more likely to 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

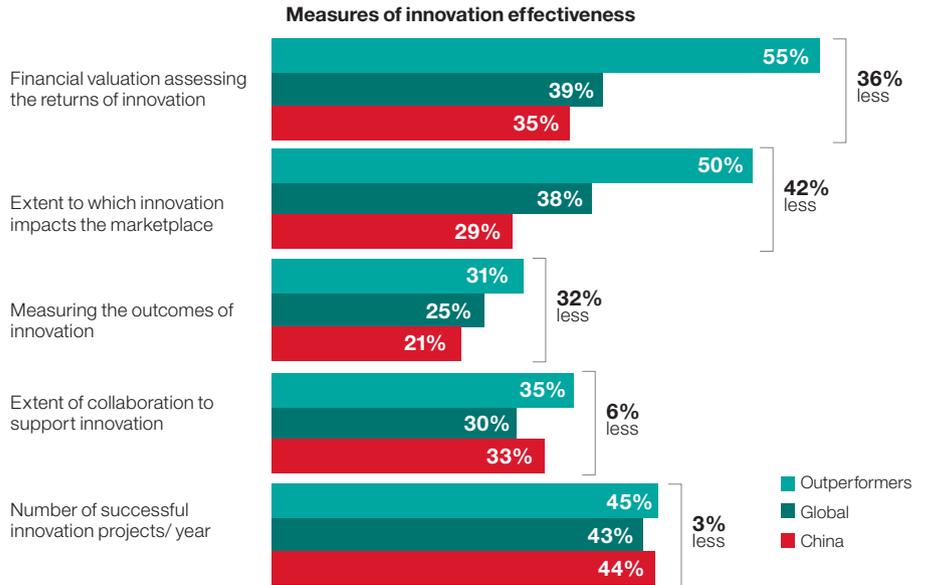
A global leader in innovation and e-commerce: Alibaba encourages employees to innovate in everything they do

A global leader in online and mobile commerce since its origins in 1999, Alibaba has consistently been regarded as a leader in business model innovation. The company has created an open culture based on information sharing and transparency, which allows data to be shared efficiently across the organization. Policies and procedures are designed to promote and encourage innovation and energy, which unleash employees' full potential. Alibaba gives employees enough space to innovate. For example, under the "Horse Race" mechanism, employees submit ideas to the Horse Race committee. When ideas are approved, resources and funding are assigned to pursue each idea as a new project.¹³

on their markets (see Figure 10). 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. Forty-two percent fewer of the Chinese executives surveyed are uncertain of the extent to which innovation impacts the marketplace.

Figure 10

Outperforming organizations measure financial return on investments from innovation



Source: IBM Institute for Business Value

Innovation lessons from the world's most successful companies

Key learnings emerge that can help those Chinese organizations looking to become more innovative:

Innovation organization

Key learning 1: Create impact from innovation resources. Idea generation processes will inevitably produce far more good ideas than 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. The absence of clear vision and strategy for research is one of the biggest constraints to effective innovation.

Key learning 2: 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.

Key learning 3: 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

Key learning 1: 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.

Key learning 2: Build a climate of innovation. Innovation works best when it becomes a philosophy, broadly applied throughout 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.

Key learning 3: 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

Key learning 1: 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.

Key learning 2: 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.

Key learning 3: 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. Identify quick wins—innovative projects likely to deliver quick returns on investment.

From here, where?

Innovative organizations outperform their peers. The most successful innovators are able to create new types of business value in sustainable ways. There are valuable innovation lessons from the world's leading companies, including those in China. The key learnings outlined in this report will provide those companies in China that would like to become more innovative with a pathway to success.

Key questions to help promote more innovation

- Can your organization improve the way it innovates and grows?
- Do your executives and employees embrace innovation in everything they do?
- Do you have structures in place to identify, select and develop the most impactful new ideas from your customers, employees and partners?

Study methodology

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, including 66 from China. 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 out performance.

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