

**IBM Institute for Business Value**

# **A new way of working**

*Insights from global leaders*



---

### **IBM Institute for Business Value**

IBM Global Business Services, through the IBM Institute for Business Value, develops fact-based strategic insights for senior executives around critical public and private sector issues. This executive report is based on an in-depth study by the Institute's research team. It is part of an ongoing commitment by IBM Global Business Services to provide analysis and viewpoints that help companies realize business value. You may contact the authors or send an e-mail to [iibv@us.ibm.com](mailto:iibv@us.ibm.com) for more information.

---

*By Nancy Pearson, Eric Lesser and Joel Sapp*

**It pays** to work smarter not harder. According to a recent study by the IBM Institute for Business Value, organizations that are significantly outperforming their industry peers also happen to be making more headway on newer approaches to work. They're using dynamic, collaborative and connected ways of working to get things done effectively within a constantly changing environment. But most organizations are not yet meeting their ambitions in these areas. For those at the forefront and those lagging behind, this research offers insights into the critical practices and technologies that are fundamentally changing the nature of work.

In spite of – and perhaps because of – an increasingly complicated and constantly changing business environment, organizations are under intense pressure to get work done faster, cheaper and more effectively. The basic mechanics of work as we know it are being redefined.

“Work” is no longer bounded by coworker proximity or time zone. It also involves a much broader set of “workers” – not just employees, suppliers and partners, but customers, freelancers and an increasingly capable network of smart devices and interconnected systems, all tied together by business processes that span organizations, time and distance.

Based on our ongoing research and involvement with organizations of various sizes around the globe, we have identified 15 approaches to accomplishing work in a more dynamic, collaborative and connected fashion. We call these smarter working practices.

To better understand how organizations are using these newer approaches to work, and how these practices contribute to better business performance, we surveyed more than 275 senior executives worldwide. Our analysis surfaced several key findings:

- Leading organizations use smarter working practices far more extensively than their lower-performing peers. And they're doing so to fuel growth, not just drive efficiency.
- Across organizations, the three most pronounced capability gaps blocking greater agility are: process and skill reconfiguration; broader and more embedded collaboration; and integrated, realtime information for decision making.
- The most dynamic, collaborative and connected companies have widely adopted specific technologies that make smarter working practices viable.

As the pace of change accelerates and business complexity intensifies, what will differentiate an organization from its competitors? We believe the answer lies in how it works – not how *hard* it works, but rather how *smart* it works. Those at the forefront of their industries will be agile enough to adapt rapidly as, not after, situations change. They will harness the collective capabilities of an extensive network of collaborators, not just those on their payrolls. Their workers will have access to information and expertise precisely when and where they're needed, regardless of where they come from.

Clearly, these smarter ways of working hold great potential; equally important, they are within reach. As this research and supporting case studies show, companies are already making headway and reaping returns.

### **Agile workplaces in a volatile, complex world**

Work happens fast. On a busy day, a large enterprise manages almost one trillion business events.<sup>1</sup> This work must also get done within a constantly changing business environment. Although organizations have always had to contend with economic booms and busts, shifts in market demand, rising customer expectations and competitive surprises, in recent years, these business changes have become much more rapid, extreme and interconnected. The problem is: the resources we accomplish work with – our employees, business processes, capital assets and tools – are often too static and rigid to adapt quickly enough.

The complexity of work is rising as well. Business processes span more divisions. More parties are involved, with responsibilities shared across and outside the organization. Further, yesterday's multinational corporation is fast becoming a globally integrated enterprise that distributes work across a worldwide talent pool.

Today's work also depends on information from many varied sources, including increasing numbers of sensors and smart devices capable of monitoring almost any physical or digital system. Despite, or perhaps as a result of, this abundance, it's harder for workers to find what they need.

#### **How can organizations work smarter?**

Through our interactions with clients around the world, we've witnessed a number of practices that are making organizations more agile. These newer approaches to how work gets done fall into three main categories (see Figure 1) – practices that make their organizations more:

- **Dynamic** – adjusting rapidly to changing business conditions
- **Collaborative** – bringing together resources, both internal and external, to share insights and solve problems
- **Connected** – enabling access to information regardless of time, distance or organizational silos.

	People	Processes	Information
Dynamic	<ul style="list-style-type: none"> <li>• Easily identify and engage people and skills to address current needs and situations</li> <li>• Quickly create and build interdisciplinary skills to be able to address the dynamics of business today</li> </ul>	<ul style="list-style-type: none"> <li>• Automatically reconfigure processes to reflect changing business conditions</li> <li>• Establish mechanism whereby rules governing business processes are owned and managed by the process owners</li> </ul>	<ul style="list-style-type: none"> <li>• Deliver and display information to meet the needs of different audiences</li> <li>• Automatically identify relevant pieces of information based on different situations</li> </ul>
Collaborative	<ul style="list-style-type: none"> <li>• Facilitate discussions across the organization to drive insight and promote greater productivity</li> <li>• Engage people outside of your business boundaries</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure process documentation is visual and well understood by key stakeholders</li> <li>• Incorporate collaborative capabilities within business processes to improve the speed and quality of decision making</li> </ul>	<ul style="list-style-type: none"> <li>• Allow individuals to comment on, and assign value to, information</li> </ul>
Connected	<ul style="list-style-type: none"> <li>• Allow people to work productively regardless of location, time or device</li> </ul>	<ul style="list-style-type: none"> <li>• Create new and interconnect existing activities seamlessly across organizational boundaries to complete tasks more effectively</li> </ul>	<ul style="list-style-type: none"> <li>• Capture and use realtime information triggered by either people or instrumentation</li> <li>• Integrate data from multiple sources</li> </ul>

Figure 1: Smarter working practices provide organizations with greater agility.

But in the everyday world of work, how pervasive are these practices? What kind of results are adopters realizing? How do these approaches impact business performance? What role does technology play in supporting these practices?

To explore these topics, we surveyed more than 275 executives from around the world. These executives are senior leaders of business units and IT functions within their organizations. We also conducted in-depth interviews with a number of executives whose companies are already applying smarter working practices.

Our research revealed several interesting findings:

- Outperformers use smarter working practices far more extensively than their lower-performing peers. And they're doing so to fuel growth, not just drive efficiency.
- For most organizations, the ability to adapt to a constantly changing environment is hampered by capability gaps in three primary areas: process and skill reconfiguration; broader and more embedded collaboration; and integrated, realtime information for decision making.
- The most dynamic, collaborative and connected companies have widely adopted certain technologies that make smarter working practices viable.

**Study methodology**

Our sample included 289 survey respondents, with titles of Vice President or above, who play significant business or technical leadership roles within their organizations (see Figure 2). They work in various industries and across the public sector, with 29 percent located in Asia Pacific, 36 percent in the Americas and 35 percent in Europe, the Middle East and Africa.

In analyzing the survey data, we examined the differences between the general population and “outperformers” – those who indicated their companies were significantly outperforming their industry peers (16 percent of the total sample). In particular, we looked at the response patterns of the most dynamic, collaborative and connected companies – those that reported extensive implementations of smarter working practices.

To complement our survey analysis, we interviewed leaders of organizations that have already put smarter working practices in place. Their insights and experiences are reflected in the case studies and quotes that appear throughout this report.

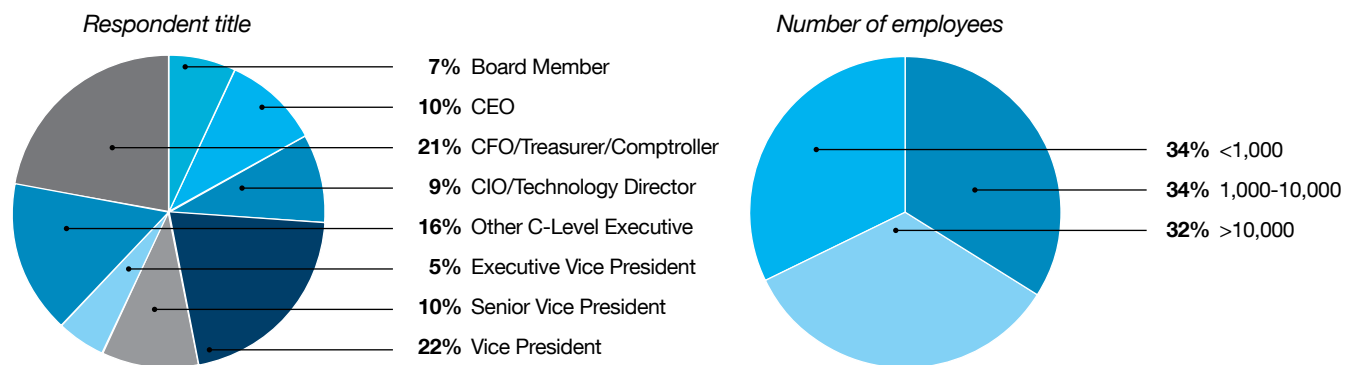


Figure 2: This study captured perspectives from senior executives leading organizations both large and small.

**Outperformers are working smarter – to fuel growth**

Still feeling the repercussions of the worst economic downturn in decades, most companies are currently focused on stabilizing their businesses. Surveyed executives rated improving operational efficiency as their top business challenge by far, with profit margins a more distant second priority. Two years

from now, they plan to shift some of this attention to developing new product/service offerings and expanding into new markets. But for now, the majority of companies remain hunkered down.

In stark contrast, companies that are significantly outperforming within their industries are already positioning for growth (see Figure 3). They are far less worried about operational efficiency (perhaps because they already excel there). Instead, they are concentrating on innovation and

expansion. Their current focus revolves around introducing new products and services and addressing regulatory requirements, which also relates to their expansion into new geographies and markets.

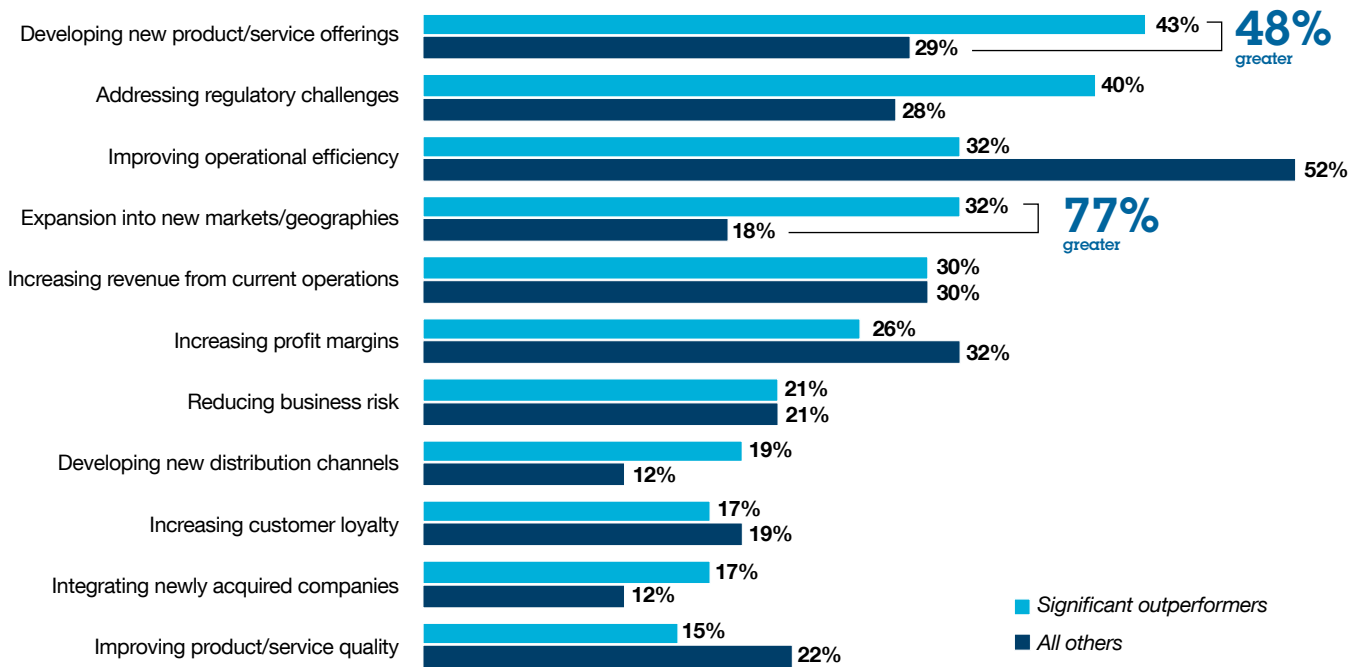


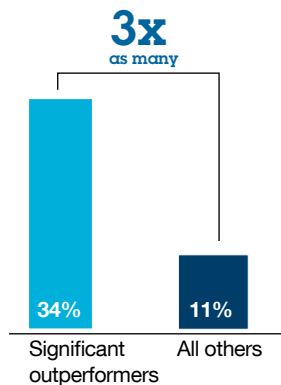
Figure 3: Outperformers are already positioning for growth today.



Equally important, these outperformers are equipping their organizations for growth by adopting smarter working practices. We found that three times as many outperformers have extensive implementations of dynamic, collaborative or connected working practices (see Figure 4).

---

*Extensive adopters of smarter working practices\**



\*Note: Companies scoring “high” or “very high” across all of the elements of at least one smarter working dimension (dynamic, collaborative or connected).

---

**Figure 4: Compared to other companies, outperformers are more than three times as likely to have adopted smarter working practices.**

### Where outperformers lead

Outperformers are developing capabilities that allow them to adjust and react more rapidly. Compared to their less adaptable peers, more than twice as many outperformers can:

- Easily identify individuals with needed skills
- Display and deliver information to meet the needs of various audiences
- Quickly build skills to address changing conditions.

They are also establishing work methods that facilitate and encourage collaboration, leveraging the collective strengths of their organizations and external stakeholders. Specifically, they are:

- Twice as likely to ensure business process documentation is visual and well understood by key stakeholders
- More than twice as focused on directly embedding collaborative capabilities within processes to improve the speed and quality of their decisions
- Three times more likely to enable users to rate and comment on the information they are using.

Across all of the smarter working practices, outperformers’ largest advantage lies in their ability to bring together disparate data for decision making:

- Nearly 30 percent report integrating different sources of data to a significant extent, which is 3.5 times more than their lower-performing peers.
- Similarly, they are using realtime information for decision making 2.6 times as often as other organizations.



Simply put, these practices are helping outperforming organizations work effectively in an increasingly volatile and complex business environment. Uncertainty becomes less problematic when an organization can reconfigure processes and skills at will. Instead of being a frustration, a broadening network of people, processes and information can become a competitive asset. Out of this complexity come fresh ideas, faster progress and valuable insights only apparent through integrated analysis of information from many sources.

### Three big gaps in how we work

We asked respondents to identify which of the smarter working practices were their most important near-term priorities – and to assess their current level of capability within those areas. Among the people-focused practices, executives felt most strongly about the need to quickly build skills and collaborate outside traditional boundaries. Interestingly, they also indicated the lowest level of capability in those same two areas.

In terms of information-related capabilities, integrating data sources and using realtime information for decision making topped executives' agenda. Their responses underscore both the challenge and the necessity of generating relevant insights from today's flood of information.

From a process perspective, executives put the highest premium on being able to automatically reconfigure business processes as conditions change. Unfortunately, they assessed their current capabilities in this area the lowest of all. Second on their process priority list was increasing the level of collaboration within specific processes.

As we examined executives' top priorities against their organizations' capability levels, three primary gaps stood out – the need for:

- Rapid reconfiguration of processes and skills
- Broader, embedded collaboration
- Integrated, realtime information for decision making.

#### Rapid reconfiguration – Fit for multiple purposes

Business processes can no longer be designed in ways that limit flexibility. They must have enough intelligence built in to sense when conditions are changing, analyze alternatives and help workers alter course. Processes must also easily draw upon additional resources – expertise in other departments, capabilities of business partners, varied sources of information from inside and outside the organization – when needed.

For example, consider the operational advantages of a manufacturer that can reconfigure its supply chain based on changing conditions. If potential supply interruptions are detected, its systems could automatically identify alternative providers in other parts of the world, recommending a course of action based on a number of different factors such as cost, timing and customer impact. The analysis could even determine whether it would be better to source individual components separately or as a preassembled subsystem.

### **Atlas Air: Reconfiguring on the fly**

Atlas Air Worldwide Holdings is a leading provider of outsourced solutions to the global air freight industry. With one of the world's largest fleets of Boeing 747 freighter aircraft, it serves clients across Asia, Europe, the Middle East, South America and the United States.<sup>2</sup>

By nature, the air freight business is extremely dynamic. Unlike commercial flights, which tend to have more predictable routes and schedules, Atlas aircraft fly to varying places – often exotic locales – on very short notice. To ensure aircraft and cargo arrive safely and on time, Atlas Air must manage a complex operational plan that involves many components – from maintenance and fueling of aircraft to catering and hotel layovers for crews. And because its processes are so highly synchronized, disruptions can ripple through its entire operation.

In making operational decisions, Atlas relies on a wide range of information from many diverse systems – its own as well as those of vendors, customers and government entities. Early on, Atlas attempted to integrate all of this information using makeshift approaches, including manual triangulation of information from different systems. However, as Atlas' business grew so did the complexity of its operational decisions, making the shortcomings of its reliance on human judgment and manual intervention increasingly evident.

To mitigate the impact of unpredictability, Atlas implemented a business process management solution that provides what it calls “managed flexibility.” Through the use of dynamically integrated information and sophisticated decision-support tools, Atlas can alter operational plans “on the fly” as situations change. Equally important, decision makers can see the overall financial impact of a particular decision – such as whether to hold up a flight and risk late charges in order to accommodate a last-minute shipment.

In addition to greater flexibility, Atlas can now achieve a much deeper level of process optimization across functions, helping significantly lower operational costs. The solution's service-oriented architecture is also reducing the cost and time it takes to integrate with strategic delivery partners, allowing Atlas to seize new market opportunities as they emerge.

*“We've created a digital nervous system that allows us to monitor and dynamically optimize our operations in a very volatile environment. We know the financial and operational implications of taking on two extra pallets of cargo at the last moment. Even which way the wind blows can affect our plans.”*

*Jim Barrecchia, Senior Director of Enterprise Architecture, Atlas Air*

---

### **Next generation collaboration – Integral, not ancillary**

Most organizations have been relatively successful at improving traditional internal collaboration. However, for many, the scope and nature of collaboration still fall short in two key areas: facilitating more external collaboration and embedding collaborative practices into normal work processes.

Corporate boundaries are often artificial barriers blocking smarter work. By broadening the scope of collaboration, organizations can tap into a wealth of expertise sitting outside the traditional bounds of the work process. Business partners and customers can become key contributors, helping solve problems and improve performance.

To reach its full potential, collaboration must also be integrated into the fabric of the process, allowing employees to discover and access needed expertise in the context of their work. For instance, while reviewing a patient's CT scan, a radiologist sees a complication that she has not encountered before. Without leaving the medical imaging application, she

could instantly find and communicate with an expert on the other side of the country who recognizes the issue and its severity. The radiologist could then bring the appropriate surgeon into the conversation, and together they can take the steps needed to save a patient's life.

---

### **Celina: Collaboration as competitive differentiator**

Celina Insurance Group provides property and casualty insurance across eight states in the midwestern United States. The company primarily sells its policies through more than 500 independent insurance agents.<sup>3</sup> Although Celina is a relatively small company with less than 200 employees, it competes with carriers that are 20 to 200 times its size.

Celina's main challenge is winning and increasing the loyalty of the independent agents who sell its products along with those of its chief competitors. Several years ago, Celina decided to differentiate itself from bigger insurance companies by embedding more personal and direct collaboration with independent agents into its business processes.

Using Celina's extranet, agents can conduct nearly all of their transactions online. Many transactions are automated. For example, thanks to a rules-based rating engine, 50 percent of new auto policies are processed without underwriter involvement. The agent enters the customer information, and as soon as the customer accepts, the application automatically converts the quote into a policy, without requiring workers to reenter information into Celina's backend insurance system. Celina has even extended many Web features to the agents' customers – even those who have purchased competitors' insurance products – thereby streamlining the independent agents' workflow.

But perhaps most distinctive and appreciated by agents is Celina's ability to respond dynamically through realtime collaboration tools. While looking at a policy online or quoting a piece of new business, agents can click on the underwriter's name and initiate a chat session. If they have questions about a claim, they can electronically converse on demand with the associated adjuster.

Realtime collaboration is now firmly ingrained in the culture – despite the fact that many Celina employees are over age 55. Instant messaging has become the dominant mode of communication, reducing phone calls (and associated expenses) by 50 percent. Through automated workflows and streamlined, realtime interaction with agents, Celina has shortened policy turnaround time from weeks to days.

By tightly integrating agents into its business processes and collaborative working environment, Celina has managed to stand out in an increasingly commoditized market. A clear sign its strategy is working: one bold competitor called Celina directly to find out how it was enabling realtime collaboration.

*“For us, realtime collaboration is a competitive advantage. To keep relationships strong, we need to make sure underwriters are there precisely when agents need them.”*

*Rob Shoenfelt, Chief Information Officer, Celina Insurance Group*

---

Whether using newer social software tools such as blogs, wikis and multimedia, or more traditional collaborative technologies such as instant messaging and collaborative spaces, the key is embedding these tools into day-to-day business processes across the larger value chain, within and beyond the organization itself. Those that can make collaborative practices part of normal business are seeing significant benefits, as illustrated by the case, *Celina: Collaboration as competitive differentiator*.

#### **Integrated, realtime information – Insight for action**

Organizations today have no shortage of data, but many lack integrated information and insights they can easily use to execute their business processes. Even more information is coming as processes and systems – both natural and manmade – become increasingly instrumented with billions of sensors and smart devices at work. Businesses need a strategy for making sense of it all. Information must be delivered in context to the people and processes that need it.

---

#### **Globe Telecom: Marketing in realtime**

With 27 million customers, Globe Telecom understands what it takes to compete in a rapidly growing market.<sup>4</sup> Telecom penetration in the Philippines has skyrocketed from single-digit to 80 percent in less than a decade. Another dominant characteristic of this market is the popularity of prepaid plans, which are used by nine out of ten mobile customers.

Unlike fixed-term service contracts, the prepaid model invites more frequent customer churn. Each time a prepaid balance reaches zero, customers can stick with their current provider, switch to another or allow their service to lapse. In this environment, Globe Telecom knew its marketing needed to be more opportunistic. Although it had no shortage of creative promotional ideas, Globe lacked the information and agility to act within these brief windows of opportunity.

To gain dexterity, Globe implemented a service creation and delivery platform based on a service-oriented architecture. The solution integrated data from mobile handsets, the communication network and IT systems, allowing the company to detect new opportunities and execute rapid tactical campaigns.

Globe's first promotion leveraging the new solution targeted its channel partners, offering cash incentives for new subscribers. The promotion recorded new subscribers at the point of sale via an activation text message sent by the customer. The

message not only captured the identity of the retailer, but also automatically provisioned the promotional service package for the customer. Rather than waiting months for manually recorded incentive information to be sent upstream for processing, Globe could pay retailers almost immediately. As a result, the promotion yielded a 600 percent increase in sales, as compared to 15 percent under the older method.

By bringing together insights from customer profiles, behavior segmentation, profit simulation and promotion execution, Globe Telecom can now respond to opportunities in a timely, compelling way. When a customer's promotional use of high-speed data services is about to expire, Globe can deliver a personalized, time-sensitive marketing offer. Equally important, the company can determine midstream whether promotions are working – and if they're not, change them almost instantly.

Through its flexible platform, Globe has reduced the time and cost of developing new promotions by more than 95 percent, and dramatically improved customer uptake. With better insights and faster reaction times, Globe has a tremendous opportunity to take share in a highly competitive marketplace.

*"We can react very quickly to promotional opportunities when they arise."*

*Mario Domingo, Head of Product Design and Creation, Globe Telecom<sup>5</sup>*

---

Tapping into integrated, realtime information enables insurance companies to spot fraud among billions of claims and helps banks to identify stolen credit cards. Correlated street-level information from officers, vehicles, cameras and other devices helps police departments detect and prevent crime. At hospitals, timely, connected information helps improve patient care, reduce wait times and prevent medical mistakes.

Practically any industry can benefit from the ability to act on integrated, realtime information. Imagine the level of service that could be provided by a hotel that is connected to complementary providers, gathering and reacting to information at every step of a customer's journey. By tracking actual flight status, it can dispatch a third-party limo service at just the right time to meet the customer. Check-in at an airport kiosk could equip the traveler's smart phone to communicate with hotel systems, automatically triggering events based on customer position. Upon arrival at the property, for instance, the customer could be greeted on his smart phone and guided directly to his room. Alerted when the customer enters his room, the desk clerk can deliver a waiting package or room service can ready a pre-ordered meal. By working in a connected fashion with its partners, the hotel can use realtime information to deliver superior travel experiences and increase customer loyalty.

### **Outperformers are closing gaps**

Although outperformers are leading the way on almost all of these smarter working practices, they don't have things completely figured out. They still have capability gaps, too; theirs just tend to be smaller.

In particular, the ability to rapidly reconfigure – in terms of people and processes – is still a sizable challenge even for those that significantly outperform in their industries. For example, in terms of dynamic process configuration, the gap between

importance and current capability is only slightly smaller for outperformers – a 26 percent shortfall as compared to 34 percent for the broader population.

In one specific area, however, outperformers have essentially closed the gap. They are successfully integrating data from multiple sources to make better, faster decisions, while most organizations still have a 17 percent capability gap in this area.

### **Technology's role in working smarter**

Technology is clearly a major enabler of these smarter working practices. But are organizations investing in technologies aligned with their most critical capability gaps? Not quite.

To better utilize integrated information for decision making, roughly 70 percent of organizations have implemented analytics and data visualization technologies in selected areas. However, organizations are not yet taking full advantage of process automation and service-oriented architecture even though dynamic reconfiguration is a high priority. Only 55 percent and 36 percent, respectively, have partially adopted these technologies. And despite the overwhelming importance of collaboration, only half have adopted collaborative spaces, and only 35 percent have implemented social software anywhere in their organizations. Widespread adoption is far lower – just 8 percent for social software.

### **Where are the leaders focused?**

When we examined the technology profile of the most dynamic, most collaborative and most connected organizations – those that had the broadest implementations of smarter working practices within each dimension – we saw a different picture.

Nine times more of them were using service-oriented architecture extensively. Nearly four times as many of these companies had widely adopted collaborative spaces. In fact, across every technology area tied to working smarter, their adoption rates were higher than their peers (see Figure 5).

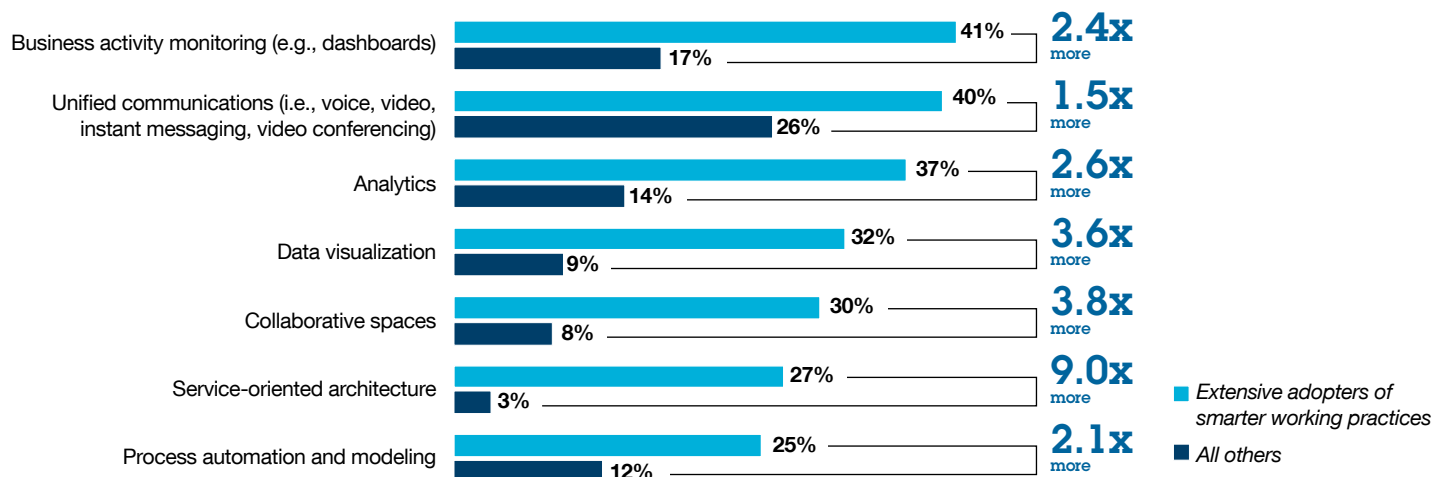


Figure 5: Extensive users of smarter working practices are much more likely to have widely adopted supporting technologies.

## Conclusion

Based on input from executives around the world, this research demonstrates the value of working smarter. We learned from the leaders that the motivation behind smarter working practices is not just for efficiency, but also growth – having the capability to generate innovative ideas, spot opportunities and then act on them.

But we also found that many organizations still have critical capability and technology gaps that are hindering greater agility. To work effectively in a complex, fast-paced and uncertain business environment, organizations need to be able to:

- Rapidly – or automatically – reconfigure business processes and skills to address unanticipated challenges and take advantage of fortuitous opportunities
- Make collaboration – both internal and external – central to how work gets done, including it as a natural part of the process not an extra step or afterthought
- Bring together the right combination of integrated information and analytical tools to help decision makers make timelier, more informed choices.

Putting these findings into a more personal context, how smart are your organization's working practices? Consider the following:

- In which of your processes and systems is flexibility most important? Or stated another way, where is rigidity and slow reaction time frustrating your customers or providing more nimble competitors an opening?
- How many innovative ideas never surface because it was simply too difficult or too expensive to bring the right people together?
- How much does it really cost your organization to have inquiries and requests sitting in voicemail and e-mail inboxes, slowing orders, interrupting supply chains and delaying customer service?
- Which work processes are prone to have lengthy e-mail exchanges that often could be addressed through a quick electronic chat?
- Which business processes still involve manual integration of information? Which use dated information?
- Which important decisions could be improved and accelerated if more current, integrated information and more sophisticated, automated analytical support were available?

It's true that work has become more complicated, but many of the factors that make it so also offer tremendous opportunity. More information is available from more sources. Specialized expertise can be just a click away. Sophisticated software can do more of the hard work by integrating, automating, highlighting valuable insights and preventing costly oversights. The possibilities are there; but to realize their upside, companies must have a plan, a strategy for how they will design their organizations and business processes to take advantage of these capabilities and act on the new insights they produce.

In a world that is increasingly instrumented, interconnected and intelligent, work is becoming decidedly more exciting and productive. We look forward to collaborating with your organization as we learn to work smarter together.

## About the authors

Nancy Pearson is the Vice President of Global Marketing for the IBM Application Integration Middleware Software business. She has 24 years of experience in marketing, consulting, technical education and sales. Throughout her IBM career, Nancy has been involved in many strategic initiatives, most recently launching IBM Smarter Planet marketing across multiple lines of business. She speaks frequently on the topic of Smart Work and the role it plays in enabling a Smarter Planet. Based in Somers, NY, Nancy can be contacted at [npearson@us.ibm.com](mailto:npearson@us.ibm.com).

Eric Lesser is the Research Director and North American Leader of the IBM Institute for Business Value. He has over 20 years of research and consulting experience in the area of human capital management. He is the co-editor of several books, and has published articles in a variety of publications, including the Sloan Management Review, Academy of Management Executive, Chief Learning Officer and the International Human Resources Information Management Journal. Eric is based in Cambridge, MA, and can be contacted at [elesser@us.ibm.com](mailto:elesser@us.ibm.com).

Joel Sapp is a Managing Consultant in the Public Sector Human Capital Practice of IBM Global Business Services. He has more than 15 years of experience in knowledge management, collaboration, Web 2.0 and learning technologies. Joel works with public and private sector organizations to build learning and collaboration strategies and implement supporting technologies. He is a member of the American Society of Training and Development. Joel's home base is Cambridge, MA, and he can be contacted at [joelsapp@us.ibm.com](mailto:joelsapp@us.ibm.com).





## Contributors

Michael Holmes, Smart Work Marketing Program  
Director, IBM Software Group

Tami Cannizzaro, Smart Work Business Area Director,  
IBM Software Group

Kristen Lauria, Vice President Marketing and Channels,  
IBM Software Group

## For more information

To learn more about how your organization can work  
smarter, visit:

[ibm.com/smartwork/study](http://ibm.com/smartwork/study)

We invite you to review other research from the IBM  
Institute for Business Value at: [ibm.com/iibv](http://ibm.com/iibv)

## The right partner for a changing world

At IBM, we collaborate with our clients, bringing together  
business insight, advanced research and technology to give  
them a distinct advantage in today's rapidly changing  
environment. Through our integrated approach to  
business design and execution, we help turn strategies into  
action. And with expertise in 17 industries and global  
capabilities that span 170 countries, we can help clients  
anticipate change and profit from new opportunities.

© Copyright IBM Corporation 2010

IBM Global Services  
Route 100  
Somers, NY 10589  
U.S.A.

Produced in the United States of America  
April 2010  
All Rights Reserved

IBM, the IBM logo and [ibm.com](http://ibm.com) are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol (® or ™), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at [ibm.com/legal/copytrade.shtml](http://ibm.com/legal/copytrade.shtml)

Other company, product and service names may be trademarks or service marks of others.

References in this publication to IBM products and services do not imply that IBM intends to make them available in all countries in which IBM operates.

### Notes and sources

- 1 McKendrick, Joe, "Is anyone ready to process a trillion events per day?" ZDNet.com, May 11, 2008. <http://blogs.zdnet.com/service-oriented/?p=1102> This article explains that, "At any one second, a large company has on its network anywhere from 10,000 to 10 billion business events...At the low end, that's almost a billion events per day — at the high end, that's almost a trillion events per day."
- 2 "Atlas Air's efficiency takes off with SOA-enabled business process management." IBM Corporation. December 2008. [http://www-01.ibm.com/software/success/cssdb.nsf/cs/JSTS-7LPPHK?OpenDocument&Site=default&cty=en\\_us](http://www-01.ibm.com/software/success/cssdb.nsf/cs/JSTS-7LPPHK?OpenDocument&Site=default&cty=en_us)
- 3 "Celina Insurance Group streamlines collaborative processes with agents to stay ahead of competition." IBM Corporation. October 2007. [http://www-01.ibm.com/software/success/cssdb.nsf/CS/CCL-788MR9?OpenDocument&Site=gicss67fss&cty=en\\_us](http://www-01.ibm.com/software/success/cssdb.nsf/CS/CCL-788MR9?OpenDocument&Site=gicss67fss&cty=en_us)
- 4 "Globe Telecom: Gaining marketing agility with smart promotions." IBM Corporation. March 2010. [http://www-2000.ibm.com/software/success/cssdb.nsf/cs/JSTS-7Z7K7B?OpenDocument&Site=default&cty=en\\_us](http://www-2000.ibm.com/software/success/cssdb.nsf/cs/JSTS-7Z7K7B?OpenDocument&Site=default&cty=en_us)
- 5 Ibid.



Please Recycle