A new survey shows that complexity is an expensive and troublesome fact of life in today’s business world. But the problem is widely recognized, and many organizations are taking steps to manage it.

Complexity is a significant problem causing quantifiable business damage, according to preliminary results of a survey of 749 business managers conducted earlier this year by Harvard Business Review Analytic Services. Furthermore, it’s not likely to improve significantly over the next two years. That’s the bad news. The good news is that many organizations acknowledge they have a problem with excess complexity, and many have taken steps to better manage it.

THE SCOPE OF EXCESS COMPLEXITY
The scope and severity of the complexity challenge is profound. It is impacting organizations where it hurts the most: future growth. When asked whether decision making had become so complex as to hinder their ability to grow in a digital economy, 43 percent of respondents agreed it had.

Complexity is defined in the survey as decision making, business processes, and information management technologies that force employees, customers, or business partners to perform too many manual steps, wait too long for results, or struggle too hard to get information. It is such a significant problem that half of respondents say that they have an initiative in place to manage it. Yet the difficulty in managing complexity is shown by the fact that only 11 percent report being very successful, while twice as many (25 percent) say they have failed.

The barriers to managing complexity are so formidable that nearly half or respondents predict that complexity will stay essentially unchanged or even get worse in the next two years.

THE COST OF COMPLEXITY
The survey responses are striking in the range of critical functions they say are made more difficult or costly by excess complexity—and in respondents’ description of how complexity makes it hard to meet some of their most pressing business challenges. For example:

- Six out of ten say complexity increased operational costs by at least 11 percent.
- Forty-three percent say complexity slows growth, impedes their ability to respond quickly to competitive threats, and interferes with effective decision making.

Meanwhile, the survey shows complexity places a heavy toll on both internal operations and outward growth initiatives. For example, of the areas most harmed by complexity, the two mentioned most often—employee satisfaction at 65 percent and operational costs at 57 percent—involve inward-facing measures. The costs to the organization are somewhat hidden, involving such factors as increased recruiting costs and higher support costs, but very real nonetheless.

The survey shows complexity places a heavy toll on both internal operations and outward growth initiatives.

These are followed by the outward-looking metrics of customer satisfaction and competitiveness, both of which were cited by half the respondents as being impacted by excess
complexity—and both of which carry a high cost in terms of market share and growth. An equally large number indicated their IT systems cannot respond “quickly and effectively to business requirements” and 38 percent mentioned the impact of complexity on revenue and profits.

**FUNCTIONAL COMPLEXITIES**
When asked which business functions are most harmed by complexity, 42 percent identified IT, followed closely by general management, such as strategy development. Given the high priority managers place on responding quickly to changing business conditions, anything that interferes with strategy development should be considered a major red flag. Other business functions hurt by complexity are customer service, HR, logistics/supply chain, and sales.

Important capabilities that all employees need regardless of business function are also harmed by complexity. Many of these are considered vital for organizations struggling to adapt to changing business needs. For example, almost half say that their ability to make insight-driven decisions is hindered by complexity. Among the top ways respondents believe they can solve the problem are:

- Simplifying and harmonizing the user experience for employees to access information
- Implementing real-time business processes, and
- Providing access to more up-to-date real-time information from anywhere.

It is strikingly clear how much work remains to be done to manage complexity.

**FACTORS THAT HELP MANAGE COMPLEXITY**
To understand how simplicity would help their organizations, respondents were asked to identify those areas where a focus on managing complexity would do the most good.

The factor cited most often, by almost seven in ten respondents, is the need for “flexibility and agility to change business processes as needed.” An equally large number ranked simpler deployment, integration, and use of IT systems as important. The next tier of drivers considered important by 64 percent of IT managers includes the ability connect people, devices, and networks in real time, and the ability to manage and utilize big data.
The degree to which complexity makes it difficult to achieve these goals is shown by how respondents rank the importance of various business and IT capabilities. Nearly three times as many business managers say their organizations are failing to deliver these capabilities as say they are very successful at them. These low levels of success make it strikingly clear how much work remains to be done to manage complexity.

**ENABLERS OF SIMPLIFICATION**

Historically, the main impediments to successfully implementing information technology have not involved hardware and software, but corporate cultures, organizational structure, and processes. According to respondents, many of the same challenges have so far hampered simplification efforts as well. figure 3 Among the top roadblocks are departments that won’t work together, uncertainty over who should be responsible for addressing the problem, and failure to identify complexity as a priority to address.

All these point to a lack of the senior-level backing that would make simplification a clear organizational priority.

All these point to a lack of the senior-level backing that would make simplification a clear organizational priority, and would force various units within the business to cooperate in it. Other process and culture issues mentioned by respondents that make managing complexity difficult include:

- Weak IT governance that allows too many disparate IT systems
- Staff resistant to change in addressing complexity, and
- Staff and senior management reluctant to change.

While complexity is an unavoidable component of doing business today, exposing too much of this complexity to customers or employees bogs down business processes, makes it difficult to achieve the goals of flexibility and agility, and makes it difficult for employees to get the job done.

**FIGURE 2**

**WHERE MANAGING COMPLEXITY SUCCEEDS—AND FAILS**

Percentage rating how important it is to provide each of the following capabilities to your organization. Also percentage rating how well they feel their organization is currently doing in providing each of the following capabilities. Rated on a scale of 1-10, where 1 = not at all important or failed and 10 = extremely important or very successful.

<table>
<thead>
<tr>
<th>Capability</th>
<th>Very Important</th>
<th>Very Successful</th>
<th>Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexibility and agility to change business processes as needed</td>
<td>69%</td>
<td>11%</td>
<td>35%</td>
</tr>
<tr>
<td>Simpler deployment, integration, and use of IT systems</td>
<td>69%</td>
<td>12%</td>
<td>32%</td>
</tr>
<tr>
<td>Ability to connect to people, devices, and business networks in real time</td>
<td>64%</td>
<td>16%</td>
<td>26%</td>
</tr>
<tr>
<td>Ability to manage and utilize big data</td>
<td>64%</td>
<td>11%</td>
<td>35%</td>
</tr>
<tr>
<td>Personalized, role-based user experience for employees to access all information they need to get the job done</td>
<td>62%</td>
<td>13%</td>
<td>34%</td>
</tr>
<tr>
<td>Ability to use predictive analysis and simulations</td>
<td>56%</td>
<td>13%</td>
<td>38%</td>
</tr>
<tr>
<td>Ability to innovate with the Internet of Things</td>
<td>40%</td>
<td>9%</td>
<td>41%</td>
</tr>
<tr>
<td>Ability to get any insight on any device in real time</td>
<td>44%</td>
<td>10%</td>
<td>36%</td>
</tr>
</tbody>
</table>
Exposing too much complexity to customers or employees bogs down business processes, makes it harder to change, and significantly increases costs. The result: an unacceptably high “complexity tax” on modern enterprises. This survey indicates that business managers can do more to communicate the real costs of complexity and create the management backing needed to drive simplification.

MORE TO COME
These preliminary findings are a preview of a more complete analysis of the survey results to be published in mid-2015. The final report will include industry by industry analysis of the impact of complexity on various business functions and examine how decision makers at various levels in the organization view the impact of complexity. In addition, the more detailed report will answer the following questions:

• What are the attributes of organizations that are most and least successful at simplification?
• Is there a correlation between those groups most successful at managing complexity and the best practices most commonly used?

Commentary and analysis from leading consultants, analysts, and academics will be featured as well.

FIGURE 3
CHANGES NEED TO SIMPLIFY BUSINESS
Percentage who say which of the following are barriers to managing complexity in their organization.

<table>
<thead>
<tr>
<th>Change</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departments/business units won’t work together to address complexity</td>
<td>52%</td>
</tr>
<tr>
<td>Unclear who should be responsible for addressing/managing complexity</td>
<td>51%</td>
</tr>
<tr>
<td>Complexity has not been identified as a problem and/or priority to address</td>
<td>42%</td>
</tr>
<tr>
<td>Lack of budget to reduce or eliminate complexity</td>
<td>42%</td>
</tr>
<tr>
<td>Lack of employee involvement in addressing complexity/developing solutions</td>
<td>40%</td>
</tr>
<tr>
<td>Weak IT governance allows too many disparate IT systems</td>
<td>35%</td>
</tr>
<tr>
<td>Staff is resistant to changes involved in addressing complexity</td>
<td>34%</td>
</tr>
<tr>
<td>Senior management is resistant to changes involved</td>
<td>32%</td>
</tr>
<tr>
<td>Other</td>
<td>5%</td>
</tr>
<tr>
<td>None of these</td>
<td>3%</td>
</tr>
</tbody>
</table>

THE DIGITAL ECONOMY HAS CLEARLY ARRIVED. And while digital technologies offer businesses a new set of opportunities to create value, the digitalization of the business world is pushing traditional IT to its limit.

Over the years, growth in transactional databases and other data sources as well as their associated systems have complicated enterprise applications and infrastructure. As we see in this report, IT complexity delays the delivery of new tech capabilities, raises capital and operational costs, and makes it harder for IT to help the business. However, technology can be a liberating force that helps companies reinvent themselves.

SAP S/4HANA is the next-generation business suite designed to run simple in the digital economy. It was designed to break the limitations of the past by simplifying IT with massive simplification and innovation. It is built on the most advanced in-memory platform today, SAP HANA, and offers a personalized user experience with SAP Fiori. Deployable in the cloud or on-premises, SAP S/4HANA is built to drive instant value across lines of business and industries.

> Reimagined Business Models
Simplicity to connect to people, devices, and business networks in real time to unlock the potential of the digital economy and deliver new experiences and value to customers. The Internet of Things and Big Data become accessible to any business—no more complex business collaboration and interactions.

> Reimagined Business Decisions
Simplicity to get any insight on any data from anywhere in real time: planning, execution, prediction, and simulation are now all done on the fly at the highest level of granularity to drive faster business impact—no more complex data consolidation through spreadsheets.

> Reimagined Business Processes
Simplicity to focus on the essential tasks in real time and gain flexibility and agility to change business processes as needed for new efficiencies—no more extensive batch processing.

Now is the time for IT to spend less time managing complexity and more time leading the enterprise digital transformation. SAP S/4HANA represents the digital business foundation of the 21st century to help drive this transformation across industries, business functions, and roles with the ultimate sophistication: simplicity.