SEE MORE, DO MORE, BE MORE.
The Future Belongs to Intelligent Operations

NEW APPLIED NOW
In today’s increasingly disruptive and complex world, change comes quickly, often without warning and from unexpected places.

New, more fierce competitors are emerging, challenging long-standing market positions and blurring traditional industry boundaries. Customer expectations—across all stakeholders of an enterprise including end-clients, suppliers, partners, and employees—are also increasing and transcending traditional industry boundaries.

Such trends are converging to quickly turn current best practices into tomorrow’s liabilities. What companies have traditionally relied on to improve performance—process optimization, cost reduction, and predictability—simply can’t deliver what’s needed to maintain share and grow the next generation of customers. To survive and thrive today and tomorrow, enterprises must be able to act quickly—with intelligence, insight, and confidence—to changes in the competitive and customer landscape. Agility, flexibility, and responsiveness are now the keys to enhancing and optimizing the customer experience and delivering superior business outcomes.

The implications of this new mandate are massive—particularly for business operations, the heart of the enterprise. Companies will need to make fundamental changes and transform their operations to be the intelligence engine of the business and build the capabilities they need to succeed. What sort of changes? HfS researched 460 enterprise customers across the globe to find out what senior operations executives think and how businesses are preparing themselves to succeed in the future.

The research clearly suggests the future belongs to organizations with Intelligent Operations that enable them to have a 360-degree view of their operations, enabling quicker, insight-led decision making. Such organizations will harness talent, data, and intelligence to transform their processes and infuse the agility and responsiveness they need to combat competitive threats and keep pace with customers’ ever-evolving expectations. This study, supported by Accenture, highlights the essential components of Intelligent Operations against the backdrop of current and emerging business challenges.
KEY FINDINGS:

Digital disruption, data explosion, and customer experience² are the driving forces behind the need for companies to transform how they do business and move toward Intelligent Operations.

• Nearly 80% of organizations are concerned with disruption and competitive threats, especially from new digital-savvy entrants.

• Data is rapidly shifting from a peripheral component to a fundamental driver of operations and competitive advantage. However, nearly 80% of respondents estimate that 50%-90% of their data is unstructured. Furthermore, data comes from a wide range of sources, including owned first-party data, second-party cooperatives, and subscribed third-party data, as well as enormous amounts of data embedded in internal processes. Enterprises need a mindset shift to become more data-centric and to maximize and monetize this diverse data.

• A robust customer experience strategy is the most significant driver of operational agility. But nearly 50% of enterprises say their back office is not keeping pace with front-office requirements as they evolve toward the OneOffice™ that replaces siloed front, middle and back office functions with seamless processes and digital capabilities.

The future belongs to organizations with Intelligent Operations: Those that use diverse data driven by applied intelligence and human ingenuity to empower next-generation, real-time decision making, exceptional customer experiences and breakthrough business outcomes.

With Intelligent Operations at the heart of the enterprise, a company can become more flexible, agile, and responsive; generate value more quickly; and achieve sustainable competitive advantage.

Intelligent Operations have five essential ingredients that come together in a dial-up or dial-down as-a-Service approach to lasting business process transformation. Intelligent Operations provide the agility, flexibility and responsiveness that businesses need to act swiftly to change and steer a new course with confidence.
FIVE ESSENTIALS OF INTELLIGENT OPERATIONS

1. **Innovative Talent.** Entrepreneurial drive, creativity and partnering ability are organizations’ top three areas of talent focus. The talent of the future will need to bring creative problem solving to the enterprise in addition to strong digital, operational and domain expertise. To meet these talent demands, enterprises will need a much more agile human resources function and a more flexible approach to recruiting that heavily leverages an open talent marketplace.

2. **Data-driven Backbone.** Over 90% of organizations believe that data-driven decisions will help them generate breakthrough customer insights. Organizations need to capitalize on the explosion of structured and unstructured data from diverse internal and external sources to gain new insights their innovative talent can use to achieve better outcomes. To that end, over 85% of enterprises are developing a data strategy around data aggregation, data lakes, or data curation, as well as mechanisms to turn data into insights and then actions.

3. **Applied Intelligence.** Nearly 90% of organizations believe the *Triple-A Trifecta* of automation, analytics, and artificial intelligence (AI) will become the holy grail of business and process transformation. To effectively use these powerful tools, companies need innovative talent who can understand the business problem they are trying to solve and then augment this talent with the right combination of people, connectivity and technology to find the answer.

4. **Leveraging the Power of the Cloud.** Over 90% of enterprises researched expect plug-and-play digital services with enterprise-grade holistic security, which is possible today through the power of cloud infrastructure. Capitalizing on the cloud, however, will require significant efforts to replace or modernize legacy systems. Recognizing this, 25% of respondents indicated they have completed legacy replacement or modernization and another 42% have concrete plans to do so.

5. **Smart Partnership Ecosystem.** Over 90% of enterprises feel they need to partner closely across the ecosystem to exploit market opportunities. For instance, organizations of the future will develop symbiotic relationships with startups, academia, technology providers and platform players to achieve their goals. Similarly, traditional business service providers are increasingly collaborating with enterprises in a true partnership model that maximizes co-innovation.

A C-level directive to drive growth is most likely to trigger the organizational transformation. Enterprises expect an average of nearly 21% revenue growth in three years, but they also want to reduce operations costs by around 22% in the same period. This means enterprises must walk a tightrope: balancing the priorities to enhance the customer experience and keeping up with disruptors while improving productivity. Achieving those multiple objectives requires a fundamental shift in how business operations support companies’ growth agenda—the shift to Intelligent Operations.
Companies today face a number of significant challenges that make competing and growing more difficult with every passing year. For survey respondents, generating new business—i.e., top-line growth—is as big a challenge as boosting profitability. But not far behind is the pressure to remain competitive, boost productivity, and improve the customer experience (see Exhibit 1).

**Exhibit 1: Top Five Challenges Faced by Businesses Today**

What are the biggest challenges currently faced by your company? Please rank the top three in order of importance.

- **Identifying / Generating new business**
  - 25% rank 1
  - 14% rank 2
  - 6% rank 3

- **Increasing profitability**
  - 28% rank 1
  - 9% rank 2
  - 8% rank 3

- **Keeping up with our competitors**
  - 14% rank 1
  - 20% rank 2
  - 8% rank 3

- **Increasing productivity**
  - 13% rank 1
  - 18% rank 2
  - 10% rank 3

- **Improving customer experience**
  - 5% rank 1
  - 12% rank 2
  - 21% rank 3

Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HfS Research and Accenture

- Generating new business (top-line growth) is equally important to increasing profitability (bottom-line improvement)
- Managing competitive pressures is as important as increasing productivity
These sharply bipolar challenges have fundamentally changed the demands on the business. The ability to make more predictive, data-driven decisions in real time, hyper-personalize customer interactions, create more digital experiences instead of physical engagements, and stay ahead of or at least match digital disruptors, are all seen as having a greater impact on the enterprise than the need to reduce costs (see Exhibit 2).

**Exhibit 2: Top Drivers Impacting Business Strategy**

Which of the following business drivers will have a major impact on your business?

<table>
<thead>
<tr>
<th>Driver</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization’s interest in and ability to make data-driven decisions</td>
<td>51%</td>
</tr>
<tr>
<td>Making more predictive decisions based on rapidly accessible real-time data across the organization</td>
<td>45%</td>
</tr>
<tr>
<td>Micro-targeting customers / hyper-personalization and customization of products to customer requirements</td>
<td>44%</td>
</tr>
<tr>
<td>Combating the threat of potentially disruptive digital competitors</td>
<td>42%</td>
</tr>
<tr>
<td>The shift toward digital / online / virtual experiences and away from physical / face-to-face engagements</td>
<td>41%</td>
</tr>
<tr>
<td>Building relationships with external ecosystem and industry partners to drive innovation and growth</td>
<td>39%</td>
</tr>
<tr>
<td>Driving out costs through process automation</td>
<td>36%</td>
</tr>
</tbody>
</table>

Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HfS Research and Accenture

**Data explosion, digital disruption and customer experience are the three most important drivers impacting businesses**

- Predictive decisions based on real-time data are the #1 and #2 drivers impacting business
- Drivers related to customer experience (hyper-personalization and digital experience) are ranked #3 and #5
- Surviving digital disruption is ranked #4 and building an ecosystem is ranked #6
- Driving out costs through automation is ranked #7, still important but lower than data-based decisions, digital disruption, and customer experience
Together, these results point to three elements—data explosion, digital disruption, and customer experience—that are now the true drivers of today’s business. With their impact spreading and intensifying, these drivers are forcing companies to rethink what they need from their business operations to survive and thrive today and position themselves for success in a future that will likely get only more volatile and complex.
Data Explosion. The ability to make data-driven, predictive decisions leveraging a near-real-time data infrastructure are the top two drivers impacting businesses today (see Exhibit 2). For most companies, making such decisions today will be difficult: Every large enterprise has enormous reserves of data that are often overlooked. In fact, in nearly 80% of respondents, 50%-90% of data is unstructured and inaccessible (see Exhibit 3).

Exhibit 3: The Data Explosion

Can you estimate the proportion of structured VS. unstructured data in your organization?

By unstructured data, we are referring to digital pictures, videos, social media feeds, web content, handwriting, sketches, and voice memos, for example, that are common data elements in any organization.

Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HfS Research and Accenture
As data becomes the new currency, companies must become more data-centric. Data and knowledge transfer must become the underlying drivers of service delivery constructs. Not only do businesses need to assimilate internal end-to-end process and operational data, but they also need the ability to look at data from the external ecosystem. This diverse data—the often overlooked but enormous amounts of data embedded in internal processes, combined with third-party and other external data from suppliers, peers, and industry clouds—creates an opportunity for companies to vastly improve the quality and speed of the decisions they make and the step-change they need to survive and succeed.

Digital Disruption. Nearly 80% of organizations are concerned with disruption, primarily from new digital entrants

And that concern is driving the investments they make. However, companies do not see digital disruption as only a threat. The opportunities digital transformation can provide outweigh the threat for a much higher percentage of respondents (see Exhibits 4a and 4b). In fact, 42% of executives said they see more opportunities than threats now than they did two years ago.
Nearly 80% of organizations are concerned with disruption and competitive threats, but also see opportunities

**Exhibit 4a: Digital Disruption Is Rife, But Opportunities Outweigh Threats**

How much do you agree or disagree with the following statements?

- **Our level of concern with disruption and competitive threats is driving our investments**
  - Strongly agree: 32%
  - Agree: 46%
  - Neutral: 4%
  - Disagree: 17%

- **We are very concerned about the level of disruption in our market currently**
  - Strongly agree: 42%
  - Agree: 28%
  - Neutral: 6%
  - Disagree: 19%

- **We see more opportunities than threats now compared to two years ago**
  - Strongly agree: 42%
  - Agree: 42%
  - Neutral: 4%
  - Disagree: 12%

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Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HFS Research and Accenture

78% of respondents are concerned with disruption and competitive threats, but 84% of respondents see more opportunities than threats

Only 19% “Strongly Agree” they are very concerned about disruption
Digital new entrants are the biggest source of competitive threat

Exhibit 4b: Digital Disruption Is Rife, But Opportunities Outweigh Threats

What is the biggest source of competitive threat to your organization now and over the next two years?

- **42%** new market entrants: digital
- **20%** traditional competitors
- **13%** new market entrants: non-digital

Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HfS Research and Accenture

Digital pure-plays are the most feared (42%)
**Customer experience.** Customer experience refers to the overall engagement experience across all stakeholders of an enterprise including end-clients, suppliers, partners, and employees. In virtually all industries, the customer experience has become increasingly important. Today, innovative companies are beginning to think in terms of a “proactive customer experience”—designing an experience not based on focus groups but one that is aligned with personal preferences based on a customer’s interactions with the company.

According to researched companies, designing a customer experience strategy is the most significant driver of better operational agility (see Exhibit 5). Keeping pace with customer experience improvements, anticipating and understanding customer needs, collecting the right data, implementing self-service, and social media engagement are emerging as top priorities for customer experience strategy in the digital age.

**Exhibit 5: The Importance of a Holistic Customer Experience Strategy**

Which of the following would be likely to achieve the biggest improvements in your organization's operational agility?

- Design a comprehensive customer engagement strategy that addresses both digital and physical channels
- Use design thinking to define and achieve business outcomes
- Invest in automation, AI
- Work more closely with our existing service provider
- Formally train internal talent to use digital technologies
- Develop a specific change management program to reorient staff

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design a comprehensive customer engagement strategy</td>
<td>27%</td>
</tr>
<tr>
<td>Use design thinking to define and achieve business outcomes</td>
<td>19%</td>
</tr>
<tr>
<td>Invest in automation, AI</td>
<td>17%</td>
</tr>
<tr>
<td>Work more closely with our existing service provider</td>
<td>16%</td>
</tr>
<tr>
<td>Formally train internal talent to use digital technologies</td>
<td>11%</td>
</tr>
<tr>
<td>Develop a specific change management program to reorient staff</td>
<td>7%</td>
</tr>
</tbody>
</table>

Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HfS Research and Accenture

A comprehensive customer engagement strategy emerged as the #1 driver to increase operational agility

Design thinking, automation and artificial intelligence (AI) emerged as #2 and #3 respectively
As organizations spend time and energy to innovate the front office, they need support from an agile and responsive back office. However, respondents indicated that backoffice (F&A, HR, supply chain) is not transforming fast enough to keep pace with customer experience demands (see Exhibit 6). Over 50% of enterprises stated that it takes months or even years for their support business functions to make changes in response to evolving business needs. The biggest culprits are siloed internal processes, which approximately 80% of organizations cited as barriers preventing them from achieving their business goals.

**Exhibit 6: Back office not keeping pace with the front – inertia rampant**

Please estimate the amount of change in the business process within each of these functions over the last 18 months.

<table>
<thead>
<tr>
<th>Function</th>
<th>3 - Moderate change but not enough</th>
<th>2 - Slight / some change</th>
<th>No change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Resources / talent development</td>
<td>26%</td>
<td>17%</td>
<td>6%</td>
</tr>
<tr>
<td>Human Resources / talent acquisition (Recruitment)</td>
<td>28%</td>
<td>15%</td>
<td>6%</td>
</tr>
<tr>
<td>Finance and Accounting</td>
<td>25%</td>
<td>12%</td>
<td>9%</td>
</tr>
<tr>
<td>Supply Chain and Logistics</td>
<td>25%</td>
<td>12%</td>
<td>7%</td>
</tr>
<tr>
<td>Customer Service</td>
<td>26%</td>
<td>11%</td>
<td>6%</td>
</tr>
<tr>
<td>Procurement</td>
<td>23%</td>
<td>13%</td>
<td>7%</td>
</tr>
<tr>
<td>Sales / CRM</td>
<td>27%</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>IT application maintenance &amp; development</td>
<td>26%</td>
<td>9%</td>
<td>4%</td>
</tr>
<tr>
<td>Marketing</td>
<td>24%</td>
<td>9%</td>
<td>3%</td>
</tr>
<tr>
<td>IT and Network infrastructure support</td>
<td>24%</td>
<td>7%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HfS Research and Accenture

**45%-50% perceive that HR, F&A, and supply chain functions are not keeping pace with changes in front office**

**IT functions are doing better than traditional back-office functions**
To improve their focus on the end customer, companies need to break down the silos between the front, mid, and back offices. An era is emerging in which there is only OneOffice™ that matters—an intelligent, single office with seamless processes and digital capabilities to create, enable and support the customer experience.

It is clear from these findings that to succeed, companies will need much more from their operations than what they get today. Indeed, the future belongs to organizations with Intelligent Operations that use diverse data driven by applied intelligence and human ingenuity to empower next-generation, real-time decision making and breakthrough business outcomes. With Intelligent Operations at the heart of the enterprise, a company can become more flexible, agile, and responsive; generate value more quickly; and achieve sustainable competitive advantage.
What defines Intelligent Operations?
There are five essential ingredients: Innovative Talent; Data-driven Backbone; Applied Intelligence; Leveraging the Power of the Cloud; and a Smart Partnership Ecosystem (see Exhibit 7). When combined, these five essentials can drive the required step-change and lasting business process transformation companies need to compete today and in the future.

Exhibit 7: Five Essentials of Intelligent Operations

- INNOVATIVE TALENT
  Organizations need creative and entrepreneurial talent who understand digital technologies, industry and functional priorities.

- SMART PARTNERSHIP ECOSYSTEM
  The ecosystem brings complementary skill sets and new technologies to drive innovation.

- APPLIED INTELLIGENCE
  Integrated automation, smart analytics, and artificial intelligence can help transform operations.

- SUPERIOR BUSINESS OUTCOMES + CUSTOMER EXPERIENCES

- DATA-DRIVEN BACKBONE
  Structured and unstructured data across internal and external ecosystems is the backbone for breakthrough insights.

- LEVERAGING THE POWER OF THE CLOUD
  Cloud ties together all the ingredients of Intelligent Operations, integrating diverse data across platforms in a secure environment.

Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HfS Research and Accenture
Innovation is not just about technologies—platforms, algorithms, and tools do not run on their own. Organizations cannot achieve true transformation without the best domain and industry expertise.

To get the most from data and technology, they need creative and entrepreneurial talent who understand digital technologies, and industry and functional priorities. (see Exhibit 9).

Historically, an operationally focused mentality has dominated business process service delivery. In the future, rather than ensuring day-to-day process stability, talent will use automation, analytics and AI to concentrate on growth opportunities and innovation and to eliminate problems at the outset. In other words, companies must balance the need for soft skills and right-brain thinking—the most prominent shift for jobs of the future—with the continued need for strong operational and digital skills including analytics, AI, automation technology, machine learning, cloud and security.

However, Exhibit 8 and Exhibit 9 highlight a paradox in companies’ thinking when it comes to talent. Fifty-five percent of organizations consider lack of relevant data analytics, AI, and machine learning skills as a major barrier (see Exhibit 8). Yet understanding digital, cloud, automation, and AI came last when the same set of respondents were asked about top workforce requirements (see Exhibit 9). This implies enterprises underestimate the importance of these skills in their talent pools.
Exhibit 8: Lack of Talent Is Preventing Organizations From Achieving Business Goals

To what degree do the following barriers prevent your organization from achieving its business goals?

- People afraid of or unable to change: 22% High, 37% Fairly high, 59% Total
- Lack of talent that understands digital business models: 19% High, 37% Fairly high, 56% Total
- Lack of long-term investment: 26% High, 30% Fairly high, 56% Total
- Overhauling legacy processes and technology: 20% High, 35% Fairly high, 55% Total
- Lack of relevant data analytics, AI, machine learning skills: 20% High, 35% Fairly high, 55% Total
- Lack of relevant IT skills (e.g. cloud, automation): 19% High, 35% Fairly high, 54% Total
- Short-term actions or priorities preventing long-term change: 23% High, 31% Fairly high, 54% Total
- Lack of digital / transformational leader: 20% High, 34% Fairly high, 54% Total
- Internal processes too siloed: 22% High, 31% Fairly high, 53% Total
- External ecosystem partners lack necessary capabilities: 20% High, 30% Fairly high, 50% Total
- Lack of clearly defined business goals: 20% High, 27% Fairly high, 47% Total

Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HfS Research and Accenture

5 of the top 10 barriers are talent related

- 59% of respondents cite lack of adaptability as a key barrier to achieving business goals
- 56% of respondents cite “lack of talent that understands digital” as a key barrier
- 55% of respondents mention lack of relevant data analytics, artificial intelligence, machine learning skills
- 54% of respondents mention lack of relevant cloud and automation skills
- 54% of respondents mention lack of digital / transformation leader
Another paradox: Over 55% of the respondents lament the lack of talent that understands digital, as well as the lack of AI, machine learning and data analytics skills (see Exhibit 8). At the same time, nearly half believe HR talent acquisition is not keeping pace with the needs of the business (see Exhibit 6). This suggests talent issues are not getting the attention they should be getting to bring aboard critical skills.
To establish the talent base required for the future, companies need agile HR and recruiting practices and strategic partnering to tap resources in the services ecosystem. For instance, entrepreneurial and digital-savvy talent will emerge from the gig economy. To capitalize on those skills, companies will need to adapt to an on-demand workforce. With labor platforms enabling workers to become more liquid, distributed teams can be quickly assembled to complete projects and then dispersed. Ecosystem partners also can play a role in providing key capabilities and skills when needed.

With this flexibility, companies can move toward a model in which they run their organization less like a hierarchy of static business processes and more like an open talent marketplace. Businesses gain the power to quickly look internally or to the external labor market and partners to meet the demand for skills. This is not only more efficient, but also enables companies to change rapidly and innovate in ways that weren’t possible before.
Data is the backbone, the foundation, of Intelligent Operations. When properly connected and analyzed, structured and unstructured data across internal and external ecosystems provides the breakthrough insights that companies need to improve their performance. In fact, over 90% of survey respondents believe that data-driven decisions will help them achieve their business goals (see Exhibit 10).

But harnessing data remains a challenge for most companies. For instance, when starting down the path to optimize or automate any process, a company often realizes how many handwritten scribbles its OCR tool cannot pick up, or the volume of non-standard forms, PDFs and images its processes involve today. In over 80% of organizations researched, 50%-90% of such unstructured data goes unused (see Exhibit 3). External data—from suppliers and other third parties, social media, and industry clouds, for example—further adds to volume, complexity, and diversity of data that companies could mine to create more straight-through processes and generate breakthrough insights.

**Exhibit 10: Achieving a Data-Driven Backbone Critical to Intelligent Operations**

**How important do you think data-driven decisions will be in helping your organization achieve its business goals?**

- **28%** High
- **42%** 4
- **22%** 3
- **6%** 2
- **3%** Low

**Which of the following best describes your organization’s primary data management strategy?**

- **Data aggregation/ingestion**: 61%
- **Data lakes**: 25%
- **Data curation**: 13%
- **Other**: 1%

Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HfS Research and Accenture

92% of respondents give data-driven decisions to achieve business goals a score of 3 or more on a 5-point scale

99% of respondents are considering data aggregation, data lakes, or data curation as their primary data management strategy

Data aggregation/ingestion is the primary data management strategy (61% of respondents)
Given the primacy of data to Intelligent Operations, organizations need a robust data strategy that will help enable them to exploit the diverse data they have access to, both internal and external, structured and unstructured, down to the process layer across functions. That is something the vast majority of companies in the study recognize. Ninety-nine percent of them are developing a data strategy around three main pillars of data management (see Exhibit 10):

- Data aggregation to compile data from various databases with the objective to prepare combined datasets for insight generation
- Data lakes to store data in its natural format in a single store. Data lakes aim to store structured and unstructured data in the enterprise and make it actionable so it can be used for reporting, visualization, analytics and machine learning
- Data curation to organize, integrate, and present data collected from various sources so the value of the data is maintained and enhanced over time

Data is poised to become the real lifeblood—and currency—for organizations in the future. Those that can tame the data volume, velocity, and variability will be best positioned for success.
Earlier this year, HfS described the Triple-A Trifecta of robotic automation, smart analytics, and artificial intelligence to provide a clear and crisp articulation of the emerging change agents for clients to optimize, renovate, or transform their business operations. While each element of the Trifecta has a distinct value proposition (RPA drives efficiency, smart analytics improves decision making, and AI can solve business problems), the three elements are increasingly converging. For instance, smart analytics are increasingly reliant on AI tools such as natural language processing to conduct search-driven analytics, neural networks for data exploration, and learning algorithms to build predictive models. Consider the following two examples:

- A portfolio manager at a financial institution develops predictive models that leverage anonymized datasets from credit cards to extrapolate the performance of retail brands. NLP techniques are often necessary to automatically extract the entities and relationships from the brief descriptions associated with each credit card transaction summary.

- Auditors are developing predictive models to assess the behavior of journal entry submissions based on the contextual information to identify potential deviations from the norm in who, where, when, what, and how the journal entry is prepared and submitted. The data associated with the journal entry submission may include emails, supporting documents, login information, organization, and social network information.

In fact, the Holy Grail of business and process transformation is at the intersection of automation, analytics, and AI. Survey respondents agree: Nearly 90% of enterprises believe that automation and AI will help them achieve their business goals (see Exhibit 11). We also expect the Trifecta to expand over time as other emerging change agents such as Distributed Ledger Technologies (DLT)—commonly referred to as blockchains—and the Internet of Things (IoT) mature and intersect with the three as described here.
Exhibit 11: Applied Intelligence

How important do you think application of automation / AI will be in helping your organization achieve its business goals?

The HfS Triple-A Trifecta: Automation, Analytics and AI

Robotic Process Automation (RPA)
- Increases efficiency / productivity
- Primarily structured data
- Requires human intervention for judgment-intensive tasks and to make changes / improvements
- Non-disruptive to legacy IT, business-user friendly

Smart Analytics
- Improves decision making
- Structured and unstructured data
- Humans take final decisions based on insights and recommendations that improve / learn over time
- Ability to sense, comprehend, adapt, and recommend

Artificial Intelligence
- Solves business problems
- Structured and unstructured data
- Humans only involved in setting objectives and initial training
- Combination of reasoning, knowledge, planning, learning, natural language processing, and / or perception

Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HfS Research and Accenture

It is also important to note that transformation via the Trifecta is nonlinear with no definite starting point. It is not necessary to start with basic automation and then advance to AI-based automation. Enterprises can start anywhere across the Trifecta. However, regardless of where it starts, a company must clearly understand the business problem it is trying to solve, and then apply the right combination of tools to find the answer. This requires innovative talent with a keen business perspective and understanding of what tools to use, when, and how. In other words, just as throwing bodies at a problem does not solve the problem, hurling software at services will not drive transformation—no matter how advanced the technology.
Cloud is the enabler and foundation tying together all the ingredients of Intelligent Operations. It facilitates better integration of diverse data and can scale up and down as needed. Industry clouds are helping integrate insights across industry and cloud-based application platforms to bring even more power to help companies move toward an as-a-Service environment.

One example of such an environment is the ability to access plug-and-play digital services with enterprise-grade holistic security—something over 90% of survey respondents expect (see Exhibit 12). However, a crucial bottleneck hampers enterprises’ embrace of the cloud: 49% of respondents have more than 50% legacy technology across all enterprise functions, which represents a substantial investment. The belief that they have a certain degree of legacy “technology debt” they have to repay dissuades many enterprises from leveraging the power of the cloud.

49% of respondents have more than 50% legacy technology across all enterprise functions
The good news is that companies are figuring out ways to replace or modernize their legacy technology. In fact, one-quarter have already completed legacy replacement or modernization and another 42% have concrete plans to do so (see Exhibit 13). Forward-thinking enterprises realize that many past investments in technology platforms and services have now become redundant with the availability of as-a-Service offerings that negate the need for major future technology investments.

Exhibit 12: The Need for Secure Plug-and-Play Digital Services

How much impact would holistic security and plug-and-play digital services have on your organization’s ability to operate in real time, if they were in effect today?

At the same time, 91% of respondents give holistic security a score of 3 or more on a 5-point scale regarding importance.

93% of respondents give plug-and-play digital services a score of 3 or more on a 5-point scale regarding importance for driving organizational agility.

Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HfS Research and Accenture

The good news is that companies are figuring out ways to replace or modernize their legacy technology. In fact, one-quarter have already completed legacy replacement or modernization and another 42% have concrete plans to do so (see Exhibit 13). Forward-thinking enterprises realize that many past investments in technology platforms and services have now become redundant with the availability of as-a-Service offerings that negate the need for major future technology investments.
By leveraging the power of the cloud, companies can enjoy significant cost and speed-to-market advantages in a secure environment—and not be held back by poor technology and large back-office teams.

Exhibit 13: Plans to Replace Legacy

Do you have concrete plans in place to replace or modernize the legacy?

- 42% of respondents have plans to replace or modernize legacy systems
- 25% of respondents have already completed their plans to replace or modernize legacy

Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HfS Research and Accenture
Over 90% of respondents think working closely with partners will be important for organizations to meet their business objectives (see Exhibit 14). For nearly half, exploring new ways of partnering across the ecosystem is one of the top three talent requirements (see Exhibit 9)—which is not surprising, given the scarcity of innovative talent. Successful enterprises of the future will need to develop symbiotic relationships across the ecosystem to exploit market opportunities and accomplish their goals. And increasingly, they will interact with an ecosystem that is expanding to include startups, academia, technology providers and platform players.

Smart enterprises realize they cannot be everything to everyone. They rely on partnerships to bring complementary skillsets, more data, and more diverse data, that fosters continuous evolution instead of one-time project-focused improvements and drives innovation.

**Exhibit 14: The Role of Smart Ecosystem**

How important do you think working closely with ecosystem partners will be in helping your organization achieve its business goals?

<table>
<thead>
<tr>
<th>Importance Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>26%</td>
</tr>
<tr>
<td>4</td>
<td>23%</td>
</tr>
<tr>
<td>3</td>
<td>26%</td>
</tr>
<tr>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td>Low</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HfS Research and Accenture

This also implies that legacy service delivery models are taking a backseat to genuine partnerships with service providers. External service delivery cannot be the black-box style of service delivery of the past. Technologies like RPA and the increasing amount of structured data generated by the greater use of digital processes are putting the levers for control back into the hands of operational leaders. Contracting and KPIs are not keeping up with the pace of change; traditional measures and metrics must be updated to reflect the outcomes companies are trying to achieve. This starts by moving away from labor-based models. Services will need to be more focused on best practice and specific outcomes, and delivered via an ecosystem. In other words, a partnership approach to service delivery will drive future success.
Cost reduction alone no longer ensures success; driving top-line growth has become equally if not more important (see Exhibit 15). In fact, respondents suggest that while they anticipate an average cost reduction in operations of around 22% in three years, they want revenue growth of nearly 21% in the same period (see Exhibit 16).

**Exhibit 15: Triggers for Operational Transformation**

Which of the following events or actions is most likely to trigger a major operational transformation within your organization?

- Top-down directive to drive growth: 24%
- Top-down corporate directive to cut costs: 20%
- Enter a new market or launch new product: 17%
- An existing managed services / outsourcing contract is up for renewal: 14%
- Top-down corporate directive to drive customer engagement: 12%
- Change in leadership: 5%
- Competitive disruption / loss of market share: 4%
- Investment analyst pushback / lack of market confidence: 3%
- We do not intend to make any significant operations changes in the foreseeable future: 1%

Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HfS Research and Accenture
The fact is, enterprises today need to walk the tightrope of balancing multiple priorities: enhancing customer experience and keeping up with disruptors while improving productivity. Companies have delivered the desired cost-reduction, efficiency, and productivity in the past two decades, but the foreseeable future will be about driving the top line while keeping the bottom line in check. In this future, operations will have a new mandate: facilitate real-time, predictive decision making, far-superior business outcomes, and breakthrough customer insights. Answering that call will require a fundamental shift in operations strategy—one that lays the path toward Intelligent Operations.

Exhibit 16: The Business Case for Transformation

What financial business case would you expect to achieve to justify transformation to a more agile, more real-time operations model in three years?

Average: 22.5%

<table>
<thead>
<tr>
<th>3-year cost savings</th>
<th>&lt;5%</th>
<th>5%-9%</th>
<th>10%-19%</th>
<th>20%-29%</th>
<th>30%-49%</th>
<th>&gt;50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>28%</td>
<td>17%</td>
<td>15%</td>
<td>8%</td>
<td></td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Average: 21%

<table>
<thead>
<tr>
<th>3-year revenue growth</th>
<th>&lt;5%</th>
<th>5%-9%</th>
<th>10%-19%</th>
<th>20%-29%</th>
<th>30%-49%</th>
<th>&gt;50%</th>
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<tbody>
<tr>
<td>27%</td>
<td>21%</td>
<td>22%</td>
<td>14%</td>
<td></td>
<td>6%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: The Future Belongs to Intelligent Operations, 460 enterprise respondents survey, 2017, HfS Research and Accenture

On an average, respondents expect a 22% cost impact and 21% revenue impact in three years from transformation initiatives.

The cost-savings profile and revenue-growth profile are very similar.
IS YOUR BUSINESS FUTURE-PROOF?
Ask these five questions to find out

1. **Do you have the right talent to navigate the future?**
   Enterprises will need innovative, right-brain, design thinking capabilities as well as digital, business process and industry skills to create valuable solutions for customers. This integrated talent set is not typically embodied in one person. Thus, enterprises need agile talent sourcing models that can flex up and down with market demand to access scarce but essential skills with adequate industry, domain, and digital (automation, AI, data) expertise. Enterprises should also pursue aggressive training strategies to equip and augment the current workforce with required skills for success today and in the future.

2. **Can you cut through the noise and get to the right data to drive real transformation?**
   Capturing the business process "exhaust" data to inform current performance and improve future operations is essential. Enterprises need to collect, store, process, deploy and monetize diverse data (internal, external, third-party, partner data) to power next-generation decision making and breakthrough business outcomes.

3. **Are you deploying applied intelligence to improve your ability to gain data-driven insights and innovate faster?**
   Enterprises must put data at the core, leverage applied intelligence (the spectrum of automation, advanced analytics, machine learning, natural language processing, and other AI technologies) to unlock unique intelligence that is powered by domain and industry expertise. This unique human-machine capability is required to drive innovation and breakthrough results.
4. **Is your infrastructure agile and flexible enough to anticipate and adjust to customer requirements and to improve your competitiveness?**

Companies that want to achieve the requisite agility to compete and succeed in today’s business climate should embrace a robust ecosystem of cloud solutions. Cloud provides speed to innovation, lower IT costs and the agility and scalability to adjust to customer needs on demand. A multi-tenant environment to support business processes and Intelligent Operations will become the only way to produce a sustainable business model.

5. **Are you establishing smart partnerships and fully leveraging the innovation potential across the ecosystem to accomplish your goals?**

The digital business of today requires continuous, real-time innovation and a network of connected ecosystem partners where all benefit from, and can leverage, a wide set of capabilities and resources to support near-term innovation objectives. The broad ecosystem includes technology and blockchain partners, startups, universities, partnerships with product companies, and platform players.

The average Fortune 500 company is only 12 years old. Enterprises must establish Intelligent Operations to provide the engine and foundation for a sustainable market position in the digital economy.
RESEARCH METHODOLOGY

This study is based on the responses of 460 participants that are involved in buying decisions related to technology and services. The interviews were conducted in Q3 2017 with a combination of telephone and online surveys, with telephone interviews included to follow up and ensure better responses to more in-depth questions.

STUDY DEMOGRAPHICS

12 Countries Surveyed

<table>
<thead>
<tr>
<th>EULA</th>
<th>North America</th>
<th>Asia Pacific</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK (30)</td>
<td>USA (130)</td>
<td>Singapore (30)</td>
</tr>
<tr>
<td>Spain (30)</td>
<td>Canada (30)</td>
<td>Australia (30)</td>
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<td>Japan (30)</td>
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</tr>
<tr>
<td>Brazil (30)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany (30)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Revenue USD

< $10Bn
Between $3Bn & $10Bn (322)
Greater than $10Bn (138)

Job Title

Total responses: 460

- CEO: 78 (17%)
- Senior VP: 119 (26%)
- Vice President: 100 (22%)
- Director: 163 (35%)

Industry

- 60
- Retail: 53
- Banking: 50
- Consumer Goods: 35
- High Tech: 34
- Software & Platform: 33
- Healthcare: 32
- Insurance: 32
- Life sciences: 31
- Telecom: 31
- Chemicals: 31
- Oil and Gas: 31
- Utilities: 20
- Energy: 18
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HfS focuses on the future of operations across key industries. HfS helps to shape the strategies of enterprise customers to develop operational backbones to stay competitive and partner with capable services providers, technology suppliers, and third party advisors. Visit us at www.hfsresearch.com for more information.

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