THINK BOLD TO LEAD
Oil and Gas CFO Digital Survey
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INTRODUCTION

Digital Finance is transforming ‘how’ and ‘what’ services are being delivered to business leaders in oil and gas. New processes are enabling a cross-functional, collaborative workforce capable of delivering greater insight.

The traditional ways of working are being fundamentally altered, and executives are seeking to refocus their people from routine data-gathering to value-added analysis, thereby paving the way to greater value.

In light of multiple digital advances, Accenture engaged a third-party research agency in 2017 to conduct a global study of chief financial officers (CFOs) in 80 oil and gas companies.

Companies employing digital finance who surpass their peers in value creation have leading capabilities, such as:

- Provision of new services made possible by digital technologies
- Closer collaboration with the business
- Ability to drive value from multi-speed IT—developing core systems such as ERP combined with emerging technologies such as artificial intelligence (AI).

Five key insights emerged from our analysis of the data:

1. Maturity in digital finance is unlocking multimillion-dollar value in oil and gas
2. New services and analytics are helping tackle major challenges
3. Digital investments and organizational changes are redefining the finance workforce
4. Investments in analytics, ERP, automation and AI are creating leaders in digital finance
5. Barriers and risks: implementation costs, skills shortages and cybersecurity.

The leaders are redefining the role of finance as a strategic advisor to the business, providing forensic-level insights and predictive foresight to inform better business decisions. They are also implementing efficiency improvements to support profitable business growth.

Imperatives for CFOs today are to define a bold vision of digital finance, commit to moving fast—or, preferably, very fast—and collaborate with an expanding ecosystem of service providers for much-improved business performance.
5 KEY INSIGHTS FROM SURVEY FINDINGS

INSIGHT #1

MATURITY IN DIGITAL FINANCE IS UNLOCKING MULTIMILLION-DOLLAR VALUE IN OIL AND GAS

Digital finance is empowering functions to unlock value from a range of available levers. Exploration and production companies are achieving cost take-out, while retail and oilfield services companies are capturing top-line growth.

A small set capture both. One company, for example, cited digital finance as pivotal to supporting incremental revenue uplift and significant cost optimization for bottom-line improvement in the upstream business—more than 30 percent over the past two years.

Our analysis finds that while 21% of companies self-reported double-digit revenue growth, and 18% of companies self-reported double-digit cost reduction, only 5% reported concurrent double-digit revenue growth and cost reduction (Figure 1).

On average, the oil and gas companies surveyed realized margin improvement of ~US$ 600 million¹ (median) following implementations of digital finance across their entire business.

¹Median cash-flow impact of revenue impact and cost impact. Calculated based on average impact of revenue growth plus cost—operational expenditure (OPEX) plus capital expenditure (CAPEX) reduction, based on OPEX and CAPEX data provided by companies (n=34) and assuming revenue = 115% OPEX, in line with industry average.
We were able to reduce our operating expenses by more than 12 percent in the last two years for the US region. ... Digital has made our finance operations simpler and more reliable.”

- North American Upstream Oil & Gas Company

Technology has played a key role. I think our expense base got spread over more production barrels and, hence, per-barrel operating cost has gone down. We have been able to reduce by more than 22 percent in G&A expenses in the last three years.”

- North American Upstream Oil & Gas Company

We have been able to improve our bottom line in upstream by more than 30 percent in the last two years in the US region. There is a small impact on revenue increase ... At a global level, we were also able to decrease debt by 20 percent in the last two years.”

- North American Integrated Oil & Gas Company

Our finance department has been prioritizing procurement and payment processes, which helped us save almost US$3 million in the last 15 months. Additionally, adopting such tools and technology has driven our organization’s revenue almost up to 60 percent in the past three to four years.”

- Central American Oilfield Services Company
Companies have harnessed digital finance to drive service efficiency improvements, as well as greater control and accuracy. However, the rise of new services centered around analytics suggests that future finance functions will leverage digital to target improved insights for decision-making.

Digital’s primary impact on finance services are speed and efficiency: speed to complete activities and, therefore, a reduction in cost (Figure 2). One respondent, for example, cited a 15 percent improvement in finance productivity over 18 months.

**Figure 2.** What has been the impact of digital on finance management systems?

- Improved service speed and efficiency: 56%
- Improved service governance and control: 31%
- Improved service accuracy and quality: 25%
- Improved insights for decision-making: 21%

The secondary impact is improved governance and control, enabling holistic monitoring of operations and identifying deviations from budgeted parameters. One respondent identified compliance irregularities had been reduced by more than 70 percent over five years.

The third most common impact of digital is accuracy and quality: improved accuracy in analysis, auditing, reporting and processing transactions, with higher-quality data and more powerful processing.

Another key enabler is automated processes, which nearly 1 in 5 companies (19 percent) identified. Companies cited the use of automation to unlock capacity within their finance functions, enabling them to redeploy resources to ‘new’ services.

**Digital being leveraged for new finance services**

More than 80 percent of respondents indicated digital is being leveraged for **new finance services** (Figure 3), such as risk analytics, credit analytics, pricing analytics, expenditure monitoring and cost variance analytics, and predictive services.

**Figure 3.** Has digital been leveraged by finance to provide new services to the business / enable new business services / products?

- Percentage of companies, n=56
Selected quotes from respondents pertaining to improved efficiency, new service capabilities and analytic insights:

“Digital advances have "enabled us to combine IT [information technology] and OT [operations technology] across all the functions in our organization, including finance. We have embedded the digitalization with our operations, and it is expected to improve our company’s performance to a greater extent. Investment, revenues and policies related to taxation are critically examined and controlled.

Some other areas of finance operations impacted by role of digital:

1. MIS [management information systems] reporting and feasibility of investments enabling planned operations;
2. Better resource allocation across functions, including finance, has enabled better governance; and
3. Productivity enhancement by 15 percent in the last 1.5 years.
4. We are able to reduce our finance operations cost base by 5 percent during the last 1.5 years."

“Insights about the cash collection, updates on the project milestones, and getting accurate, timely billing;
Identification of revenue-recognition standards; and
Specialized project reviews to ensure the focus remains on cost-control and revenue-recognition activities.”

- Asia Pacific Integrated Oil & Gas Company

The impact of digital on finance management system is immense. Starting from data storage and management to complex data analysis, digital has transformed the traditional methods of working into smarter and quicker processes.

Today, robotic process automation is reducing the dependence on resources for niche work without compromising the quality of the work.

Some of the key aspects where impact of digital on finance management has been immense are:

1. Insights about the cash collection, updates on the project milestones, and getting accurate, timely billing;
2. Identification of revenue-recognition standards; and
3. Specialized project reviews to ensure the focus remains on cost-control and revenue-recognition activities.”

- North American Oilfield Services Company
INSIGHT #3

DIGITAL INVESTMENTS AND ORGANIZATIONAL CHANGES ARE REDEFINING THE FINANCE WORKFORCE

As finance services pivot from an efficiency focus to an insight focus, the workforce requires greater cross-functional collaboration and alternative structures to partner productively with the business. Digital’s impact on finance workforce performance can be seen in Figure 4:

FIGURE 4. What has been the impact of digital on your finance workforce?

Workforce Performance

<table>
<thead>
<tr>
<th>Improvement</th>
<th>% of Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved workforce efficiency</td>
<td>64%</td>
</tr>
<tr>
<td>Improved workforce skills and capability</td>
<td>62%</td>
</tr>
<tr>
<td>Improved workforce health, safety, security</td>
<td>16%</td>
</tr>
<tr>
<td>Improved employee engagement</td>
<td>16%</td>
</tr>
</tbody>
</table>

Workforce Execution

<table>
<thead>
<tr>
<th>Improvement</th>
<th>% of Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redefined work</td>
<td>33%</td>
</tr>
<tr>
<td>Restructured jobs</td>
<td>27%</td>
</tr>
<tr>
<td>Enabled increased collaboration</td>
<td>16%</td>
</tr>
<tr>
<td>Improved work flexibility</td>
<td>4%</td>
</tr>
</tbody>
</table>

Percentage of companies, n=46
The most major advances in workforce performance, according to survey responses, are in the areas of:

- **Efficiency.** Automated reporting and analyses in real time compress working hours while delivering faster insight.

- **Skills and capabilities.** The workforce can manage sophisticated/complex activities and contribute to innovation initiatives, which requires upskilling as part of broader digital-finance implementation.

Key enablers for improved workforce execution cited by survey respondents:

- **Redefinition of work.** Examples include cross-functional roles, real-time operations, transitioning to new roles (e.g., data scientists, cybersecurity specialists, application developers).

- **Restructuring of jobs.** Redefining and redeploying rather than eliminating jobs through automation. Leveraging of digital technologies (e.g. automation) enables greater efficiency and strengthens capabilities (e.g. powerful analytics).

Additional impacts include:

- **Employee health, safety and security,** including improved work-life balance and reduced overtime burden;

- **Employee engagement,** with examples including development of intellectual property, training and incentives for new ways of working, along with greater retention; and

- **Collaboration both globally, among functions, and with third parties; and greater flexibility.**

Selected quotes from respondents on the potential impact of digital technologies on the workforce:

> Emerging digital technologies have worked more for the sake of redefinition, in comparison to elimination of jobs. ... [Training enables] personnel to work with more complicated transactions so they can give their best in challenging situations. Flexibility of workers is also improved."

- North American Upstream Oil & Gas Company

> It won’t be wrong to call the accountant a data scientist. Their skill and capabilities have broadened. I can say that a tech- and digital-savvy worker has the ability to transform day-to-day operations and can become a catalyst for maximizing value capture for finance operations."

- European Upstream and Midstream Oil & Gas Company

> We have seen a drastic change and advancement in skills of the finance workforce ... because of available digital technologies. As a result of these tools and technologies, personnel are able to complete their work in allocated time, and this has even made them more dynamic and versatile. They are now capable enough to handle complex operations and to get more qualitative results out of these operations."

- European Integrated Oil & Gas Company
INSIGHT #4

INVESTMENTS IN: ERP, AUTOMATION AND AI ARE CREATING LEADERS IN DIGITAL FINANCE

Well over half of survey respondents say their finance organizations are currently investing in big data / advanced analytics, traditional ERP solutions and robotic process automation (RPA). As new finance services re-focus from efficiency to insight, companies are pivoting from widely adopted traditional ERP and RPA technologies to more ambitious, next-generation ERP and AI technologies, and even exploring quantum computing. (Figure 5).

FIGURE 5.
On which digital technologies are you focusing your investment in finance?

<table>
<thead>
<tr>
<th>Technology</th>
<th>Percentage of companies, n=76</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big data/advanced analytics</td>
<td>64%</td>
</tr>
<tr>
<td>Traditional ERP</td>
<td>53%</td>
</tr>
<tr>
<td>Robotic process automation (RPA)</td>
<td>27%</td>
</tr>
<tr>
<td>Machine learning/cognitive/AI</td>
<td>12%</td>
</tr>
<tr>
<td>Next-generation ERP</td>
<td>11%</td>
</tr>
<tr>
<td>Cloud</td>
<td>11%</td>
</tr>
<tr>
<td>Blockchain</td>
<td>7%</td>
</tr>
<tr>
<td>Internet of things (IoT)</td>
<td>4%</td>
</tr>
<tr>
<td>Mobile</td>
<td>4%</td>
</tr>
<tr>
<td>Quantum computing</td>
<td>3%</td>
</tr>
</tbody>
</table>

Are there any emerging technologies that your finance organization is currently exploring?

<table>
<thead>
<tr>
<th>Technology</th>
<th>Percentage of companies, n=62</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big data/advanced analytics</td>
<td>42%</td>
</tr>
<tr>
<td>Traditional ERP</td>
<td>6%</td>
</tr>
<tr>
<td>RPA</td>
<td>19%</td>
</tr>
<tr>
<td>Machine learning/cognitive/AI</td>
<td>27%</td>
</tr>
<tr>
<td>Next-generation ERP</td>
<td>39%</td>
</tr>
<tr>
<td>Cloud</td>
<td>5%</td>
</tr>
<tr>
<td>Blockchain</td>
<td>6%</td>
</tr>
<tr>
<td>IoT</td>
<td>5%</td>
</tr>
<tr>
<td>Mobile</td>
<td>6%</td>
</tr>
<tr>
<td>Quantum computing</td>
<td>10%</td>
</tr>
</tbody>
</table>

Big data/advanced analytics support real-time pattern recognition and predictive capabilities (e.g., scenario based modelling) to support decision-making in investments and resources.

Traditional ERP solutions support core processes (e.g., planning, reporting and transactions) with a growing shift to next-generation ERP (e.g., SAP HANA).

RPA helps with processing and standard reporting while boosting accuracy and speed.

Big data/advanced analytics, and next-generation ERP are the top two emerging technologies being explored, followed by machine learning/cognitive/AI. Artificial intelligence technologies, in the form of cognitive assistants, help to manage support services, queries, reconciliations and reporting.

Quantum computing, which exceeds blockchain’s percentage of emerging areas being explored, could have value in areas such as portfolio optimization and fraud detection.
Reasons why analytics continue to be a top investment area

Analytics are being leveraged increasingly for:
• Transparency of costs (to enhance traceability)
• Modelling of historic costs to a more granular level
• Identifying trends to optimize expenditure or capital investment.

A small set of companies are applying advanced analytics for forensic-level insights and predictive foresight to boost productivity. Predictive analytics are also being applied by companies to forecast market trends, production, price gaps, as input into budget planning, and to define future expenses with greater accuracy reducing the risk of cost overruns.2

Finance executives have yet to get costs under control.

The opportunity to optimize budget allocations—enabled by zero-based budgeting—is being met by some companies through analytics (Figure 6).

FIGURE 6. Do you believe you fully optimize allocated OPEX?3

Percentage of companies, n=69
Selected quotes from respondents on how investments in analytics and AI are helping boost productivity:

“Digital technology for efficient finance operations “has increased our operational efficiency by 5.5 percent, year on year, over the past three years. We are leveraging process automation, advanced analytics and big-data analytics.”

- Asia Pacific Integrated Oil & Gas Company

“Around two years back, we initiated an AI [artificial intelligence] project called Amelia. We have been leveraging it in our accounting section. It has got a strong capability of AP [accounts payable] support and servicing. Also, within the procurement team, a lot of queries regarding the open PO [purchase order] or retrospective PO or invoicing or timely payments are addressed by it, answering questions from vendors regarding payments and invoices.”

- North American Oilfield Services Company

“A successful example of using predictive analytics in finance is that we [reduced] operating expenses by more than 25 percent in 2016. Our supply-chain efficiency has increased, and there are accurate revenue, and portfolio investment projections.”

- North American Integrated Oil & Gas Company

“We have our big data for almost all the departments, and we use this data to find trends in terms of purchase activities, OPEX, CAPEX [capital expenditure], payroll, benefits, etc. These trends and data analysis provide actionable insights for us to invest our capital or make expenditure more wisely. We have visualization tools such as Tableau, etc., to better understand the forecasting and make the required changes to achieve different results, such as cost optimizations, resource allocations, etc.”

- European Oilfield Services Company

“We have over 95 percent of the spend and investment base as traceable, managed and measured. The ratio of unclassified spend was more than 10 percent to 12 percent, and it has gone down to the less than 5 percent now. To give you a perspective, any spend or expenditure which is not classified cannot be mapped against which service we have utilized it and, hence, there are more chances of leakage.”

- North American Upstream Oil & Gas Company
**INSIGHT #5**

**BARRIERS AND RISKS: IMPLEMENTATION COSTS, SKILL SHORTAGES AND CYBERSECURITY**

Many finance executives are unsure how to overcome challenges such as implementation cost, skill shortages and legacy technology infrastructure. The top challenge cited by respondents is **implementation cost** (Figure 7)—understandable in light of reduced margins and other cost pressures (e.g., infrastructure upgrades, employee training, external services), challenges felt acutely by smaller businesses.

**FIGURE 7.** What are the key barriers or challenges you face leveraging/implementing digital finance today?

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation cost</td>
<td>53%</td>
</tr>
<tr>
<td>Digital skills shortage</td>
<td>49%</td>
</tr>
<tr>
<td>Technology infrastructure</td>
<td>25%</td>
</tr>
<tr>
<td>Cybersecurity</td>
<td>24%</td>
</tr>
<tr>
<td>Regulation and compliance</td>
<td>22%</td>
</tr>
<tr>
<td>Implementation complexity</td>
<td>18%</td>
</tr>
<tr>
<td>Organizational structure</td>
<td>14%</td>
</tr>
<tr>
<td>Cultural / change management</td>
<td>14%</td>
</tr>
</tbody>
</table>

Percentage of companies, n=72

The second most-cited challenge is **digital skills.** There is a need to upskill the workforce due to scarcity of experts and project-delivery personnel (e.g. experienced in agile delivery methods) to implement advanced digital platforms.

The third most common challenge is **infrastructure.** Outdated platforms and server/network/portal capacity present constraints on advanced technology systems. These challenges can be overcome through greater collaboration across broader finance ecosystems enabled by digital technologies.

Following close behind is **cybersecurity,** a challenge due to breaches and data theft (e.g. cyber threats, malware attacks), and also perceived as a top area of risk in five to 10 years (Figure 8).

**FIGURE 8.** What are the key risks you anticipate you will encounter developing digital finance in 5-10 years?

<table>
<thead>
<tr>
<th>Risk</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cybersecurity</td>
<td>49%</td>
</tr>
<tr>
<td>Implementation cost</td>
<td>36%</td>
</tr>
<tr>
<td>Digital skills</td>
<td>34%</td>
</tr>
<tr>
<td>Technology infrastructure</td>
<td>30%</td>
</tr>
<tr>
<td>Regulation and compliance</td>
<td>16%</td>
</tr>
<tr>
<td>Cultural/change management</td>
<td>16%</td>
</tr>
<tr>
<td>Organizational structure</td>
<td>10%</td>
</tr>
<tr>
<td>Implementation complexity</td>
<td>7%</td>
</tr>
</tbody>
</table>

Percentage of companies, n=61
Survey respondents voiced concerns about data being migrated to cloud networks and increasingly shared across internal departments and with external partners. One respondent noted cybercrime risk is expected to increase by four times in the next five years.

Implementation cost, also cited as a significant challenge, is also viewed as the second top area of high risk in five to 10 years. Future digital projects are expected to be more advanced and expensive. Increasing volatility and uncertainty will make it harder to budget for multi-year digital finance programs.

Selected quotes from respondents pertaining to barriers and perceived future risk areas of digital finance:

“No doubt, with great advancements in digital technologies, we are able to carry our operations at a very easy pace. At the same time, we also encounter barriers while implementing. First and foremost relates to availability of capital resources, as we have to mold our infrastructure. Secondly, it becomes essential to develop our personnel’s understanding so that they can easily avail all these technologies and make their operations effective and accurate.”

- European Integrated Oil & Gas Company

Third on the list of perceived future risks is digital skills—not just the existing workforce learning new skills but a company’s ability to recruit talent. Respondents stated that some graduates do not possess the relevant digital skills, with slow time to autonomy, exacerbated by high attrition of “tech-friendly” workforce.

Key barriers to leveraging/implementing digital finance processes:

1. Lack of talent who can identify, innovate, improve and implement these digital technologies to realize the benefits;

2. Change management, a big issue within our organization because people are very reluctant to change from the traditional means of carrying out financial processes;

3. Top leadership a lot of the times does not approve or support these changes because they perceive these changes as investment risks.”

- Latin American Integrated Oil & Gas Company
Key challenges I have seen happening in the last 4-5 years:

1. Reduced profit margins restrict our spending on advance technology to improve our operations;

2. Inefficiency in deploying technology due to outdated infrastructure or continually updating it; and

3. Difficulty to cope up with the increase in cybercrime.”

- European Oilfield Services Company

Some of the key barriers:

1. Industrywide digital finance work ethics are still in the nascent stage, and we are no different;

2. Lack of standardization and meeting up with the compliance requirements while processing and analyzing huge data sets;

3. Lack of desire to implement digital transformation, due to fear of more experimental and analytical functioning. ... [which is why] we were late in accepting and implementing digital technologies in our processes by two years or so.”

- North American Upstream and Midstream Oil & Gas Company

The biggest risk would be lack of quality professionals who can serve the digital environment. If I look at the curriculum in good colleges in the US, fresh graduates don’t have an understanding of digital modules, which requires an analytics focus.”

- North American Upstream and Midstream Oil & Gas Company

One of the biggest barriers I would see of digital finance, especially in emerging countries, is a high probability of network/service downtime. There are service-level agreements between providers and business users, but even a downtime of five minutes can lead to loss of few thousand dollars. In years to come, service providers need to assure about 100 percent uptime.”

- North American Upstream Oil & Gas Company

Inefficient coordination between top-level managers and the finance workforce could lead to a slow, decision-making process. Generally, management is looking for solutions which are more cost-efficient. ... This restricts the oil and gas companies in adoption of digital finance. I think there is and would always be a trend of bureaucracy in the procurement functions of oil and gas industry; this, too, can destabilize the advantages of the digital finance.”

- North American Upstream Oil & Gas Company
QUALITIES OF DIGITAL VALUE LEADERS

To determine qualities possessed by leaders, we evaluated our survey respondents’ companies on two axes (Figure 9):

- **Digital value**, evaluated based on revenue growth and/or cost reduction, achieved by implementing digital finance.

- **Digital maturity**, assessed based on companies’ digital maturity for finance, accounting and enterprise performance management services.

**FIGURE 9.** Segmentation of survey respondents: Nearly half of companies are not seizing greater opportunities.
Digital Value Leaders are pioneering digital finance capabilities and successfully optimizing value from digitalization. Almost 1 in 4 respondents is successfully pioneering digital finance to position for growth while concurrently realizing value from investments to deliver double-digit value (10 percent or greater revenue growth and/or cost reduction).

Digital Challengers are pioneering digital finance capabilities but not optimizing value from digitalization. About 1 in 5 (21 percent) are pioneering digital finance, achieving leading maturity to position for future growth, but not fully realizing immediate value.

Value Architects are optimizing value from their traditional finance capabilities. Eight percent, or close to 1 in 10, are outperforming traditional peers, realizing double-digit value (10 percent or greater revenue growth and/or cost reduction) from traditional finance capabilities.

Traditionalists are realizing limited value from their traditional finance capabilities. Nearly half (49 percent) are in the traditional paradigm – they continue to adopt “traditional” methods with limited insights to optimize investments and unlock cash-flow for reinvestment and growth. They have average digital capabilities and are realizing growth/cost savings (value) of less than 5%.

The leaders are moving faster
Digital Value Leaders move faster than peers, on average:

- Quarter-end close—up to three days faster
- Forecasting—up to four days faster
- Days sales outstanding—up to four days lower.

FIGURE 10. Leaders’ mature capabilities unlock greater value.

<table>
<thead>
<tr>
<th>TRADITIONALISTS</th>
<th>DIGITAL VALUE LEADERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realize incremental (~5%) growth and/or cost-saving, supported by basic digital maturity to build and sustain value.</td>
<td>Realize double-digit (&gt;10%) growth and/or cost-saving benefits, supported by leading digital maturity to build and sustain future value.</td>
</tr>
<tr>
<td>Invest in advanced analytics, traditional ERP and RPA today, and intend to explore next-generation ERP in future.</td>
<td>Invest in advanced analytics, traditional ERP, RPA, blockchain today, and intend to explore AI, next-generation ERP and quantum computing in the future.</td>
</tr>
<tr>
<td>Execute services with efficiency, quality and control, and deliver process improvement (standardized, scalable).</td>
<td>Execute services with efficiency, quality and control; and provide new services that offer insights and decision-making support (analysis, prediction).</td>
</tr>
<tr>
<td>Restructure workforce for new roles and skills.</td>
<td>Restructure workforce for new roles and skills, and drive greater collaboration and engagement.</td>
</tr>
<tr>
<td>Address cost, skill and infrastructure challenges today; assess cybersecurity and cultural-change risks in future.</td>
<td>Address cost, skill, infrastructure and cultural change challenges today; cybersecurity risks in future.</td>
</tr>
</tbody>
</table>
3 DIGITAL FINANCE IMPERATIVES FOR CFOs

IMPERATIVE #1

DEFINE A BOLD VISION

Digital finance requires a carefully considered plan and CFO focus to identify where it can help unlock value. Traditional capabilities are being transformed for new approaches to old problems (e.g. zero-based budgeting powered by analytics). Leaders have moved beyond advanced analytics, ERP systems and RPA with digital-human teams, to pilot blockchain (e.g. reporting, payments), and to explore technologies such as AI (e.g. cognitive assistants) and quantum computing (e.g. portfolio optimization, fraud detection).

IMPERATIVE #2

MOVE FAST – OR VERY FAST

Cost uncertainty and capital pressures present obstacles to implementing the “New”, which requires an agile approach that can fail or scale fast, and be adapted in response to changes in volatile commodity markets and technology. The New allows companies to challenge conventional practices and serve customers better, faster and cheaper than with approaches in use by incumbent players. Cultural change management, which should be addressed today, can be implemented as part of reskilling and restructuring. Leadership needs to support the transition to organizational agility.

IMPERATIVE #3

COLLABORATE FOR GREATER SUCCESS

Coordinate efforts, whether through a new approach to finance business partnering, or delivering finance as part of cross-functional teamwork for end-to-end, customer-centric services. Engage in industry organizations, with partners and other stakeholders (e.g., technology sector, government and regulators, education sector) to build cybersecurity capabilities, and to shape transparent, common regulations and standards aligned with industry interests. Partner with academic institutions to nurture talent for future success.
ABOUT THE SURVEY

Accenture’s global research of oil and gas chief financial officers was conducted by a third-party agency. Survey participants were identified by holding the position of either: corporate chief financial officer for a company, or business unit chief financial officer for regional business units, within an oil and gas or oilfield services company. In-depth, 60-minute interviews, in person or by telephone, were conducted from July to September 2017.

Respondents included corporate or business-unit CFOs for regional entities in 80 companies:

• Exploration and production companies (upstream only)
• Integrated energy companies (upstream and midstream; upstream, midstream and downstream)
• Oilfield services companies
• Participants identified as being in oil and gas but did not specify their operating segments.

A broad range of sizes of companies is represented in this study:

• Market capitalization where applicable ranging from approximately US$ 2 billion to $50 billion
• Company headcounts ranging from approximately 200 to 460,000 full-time employee equivalents.

Respondents’ companies are headquartered in 16 countries:

Australia
Azerbaijan
Bermuda
Brazil
Canada
China

France
India
Indonesia
Italy
Netherlands
Nigeria

Norway
Russia
United Kingdom
United States

Norway
Russia
United Kingdom
United States
1. Median cash-flow impact of revenue impact and cost impact. Calculated based on average impact of revenue growth plus cost—operational expenditure (OPEX) plus capital expenditure (CAPEX) reduction, based on OPEX and CAPEX data provided by companies (n=34) and assuming revenue = 115% OPEX, in line with industry average.

2. Synthesis of responses to the question: “How do you leverage analytics to gain forensic-level insights into the cost drivers across your business?”; “How do you leverage analytics to track and forecast costs across your business?”

3. OPEX is short for operational costs. Chart findings are a synthesis of responses to two questions: “Do you believe you fully optimize allocated OPEX?”; and “Which digital technologies are you focusing your investment in finance?”

4. Digital value evaluated based on whether companies achieved 10% revenue growth and/or cost reduction, concurrently, by implementing digital finance.

5. Digital maturity evaluated based on companies’ evaluation of the proficiency of their digital capability—rated 1-5—for finance and accounting and enterprise performance management services; leaders scored at least a 4 or 5 in both categories.

6. Digital Value Leaders are defined as those companies that achieved a 10 percent improvement to revenue and/or cost (Digital Value) and scored at least a 4 or 5 in both ‘Finance & Accounting’ and ‘Enterprise Performance Management’ (Digital Maturity).

7. Finance metrics comparing performance of leaders to 3 other segments:

<table>
<thead>
<tr>
<th></th>
<th>TRADITIONALISTS</th>
<th>VALUE ARCHITECTS</th>
<th>DIGITAL CHALLENGERS</th>
<th>DIGITAL VALUE LEADERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average days to close books following quarter-end</td>
<td>17</td>
<td>19</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>Average days sales outstanding</td>
<td>33</td>
<td>31</td>
<td>31</td>
<td>29</td>
</tr>
<tr>
<td>Average days to complete forecasting</td>
<td>28</td>
<td>31</td>
<td>30</td>
<td>27</td>
</tr>
</tbody>
</table>

8. Accenture is defining the context of the “New” as follows: Our clients’ worlds are changing all the time. They are experiencing demographic shifts (millennial), changing customer expectations (the rise of the sharing economy), shifts in macro, social and cultural trends (climate change) and, of course, emerging technologies (digital, quantum computing, solar, etc.). When these forces meet, they can cause major discontinuities and disruptions for businesses and societies—as well as enormous opportunities for organizations. As a result of the shifting environments, new business models emerge. An organization’s core business is joined by the nearby new business opportunity, which is driven by innovations in new management practices and new technologies. The new business allows companies to challenge conventional practices and serve customers better, faster and cheaper than the existing approaches provided by incumbent players.

All responses were analyzed to identify key themes. Each company’s response was subsequently mapped to the relevant key themes. As a result, some responses map to more than one theme which means percentage in charts do not necessarily total to 100.
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