Controllership in the digital era: Disruptive technologies lead the way
The Dbriefs Driving Enterprise Value series
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Agenda

• Why digital?
• Digital disruptors impacting today’s controllership landscape
• How leading-edge controllerships are embracing digital change
• Next steps
Technological change is occurring at an exponential rate

12 years ago
- It took millions of dollars to sequence the first genome
- Today, it is as affordable as a standard drug
- Self driving cars were a figment of our imagination
- Today, they are being developed and tested on a daily basis

Today
- A farmer with a smartphone in Africa has more computing power than many leaders of large countries had 20 years ago
- A drone serves mostly as a novelty
- By 2020, it will likely be a main transportation method for goods

...and there’s no turning back
Digital evolution requires a different approach to generate value
Digital disruption is changing business models, altering the
competitive landscape, and forcing new thinking

To remain competitive in the digital landscape, organizations can:

**Embrace the digital ecosystem**

The borderless digital ecosystem requires flexibility—Develop
capabilities to respond to competitors from outside their industry
and leverage digital disruptors for new ways to compete

**Re-think work**

Shortened product lifecycles demand new ways to extract value
from assets—Look not only for ways to do familiar things
differently, but also to do fundamentally different things

**Take an agile approach**

Digital culture requires organizations to respond in new ways—
Shorter sprints can be beneficial and result in positive ROI
Take this standard practice view of the accounting process that organizations have embraced over the years...

**Process transactions**
- **Capture financial data**
  - Order to cash
  - Purchase to pay
  - Manage fixed assets
  - Research & development
  - Manage inventory
  - Plant, equipment & facilities
  - Human resources & payroll
  - Manage IT
  - General accounting

**North America, Asia-Pacific, Europe, Africa & Middle East, Latin America**

- **Entity close**
  - Asset depreciation
  - Revenue accounting
  - Currency valuation
  - IC reconciliation
  - Allocations
  - Accruals
  - Manual postings

- **Consolidations**
  - Intercompany eliminations
  - Currency valuation
  - Accruals & pre-paids
  - Allocations
  - Chart of accounts mapping

**Validation**
- Reconciliations
- Re-Class entries
- IFRS/International accounting
- Top side entries
- Base erosion & profit shifting

**Analytics**
- Fluctuation/variances
- Forecasting
- Continuous monitoring

**Reporting**
- CONSOLIDATED
  - Income statement
  - Balance sheet
  - Cash flows

**Regulatory & convergence standards**
- IFRS
- Revenue recognition
- Cash flow reporting

**IFRS/International accounting**
- Lease accounting
- XBRL
- Base erosion & profit shifting

**“Last Mile” of Finance**

**Management**
- statutory reporting

**Public filings**
- Annual Quarterly MD&A
- Earnings Analyst presentations

**Tax & regulatory reporting**

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Today, new digital capabilities are significantly changing the controllership domain.
Digital disruption may even help realize fully-automated finance
We are moving toward a world in which organizations pursue a touchless model for operational finance

“Half of CEOs expect to see substantial digital transformation in their industries, or for their industries to be almost unrecognizable within five years.”

-Gartner, 2016 CEO Survey: The Year of Digital Tenacity

“By 2020, business process outsourcing services will be known simply as business services...the digital business revolution will drive 60% of business process service providers to renovate, revamp and reinvent.”


Bringing us closer to a reality in which there will be more time for value-added activities
Polling question #1

To what extent are you seeing your organization impacted by technological change and digital evolution?

• Our organization operates much like it always has

• We are beginning to see digital capabilities emerge in selected parts of our business and controllership processes

• We are seeing significant parts of our business and end-to-end processes embrace digital capabilities as an essential value driver

• We have rethought every business process with digital in mind. Nearly all key programs and initiatives we undertake have a digital component

• Don’t know/Not applicable
Disruptive forces act as a catalyst for change
Digital disruptors are helping the controllership fill technological “white space” not historically solved via traditional technologies

<table>
<thead>
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<th>Technology</th>
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<td>Uses scalable, elastic technology to deliver services over the internet</td>
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<td>Teaching systems that “think” like humans can add a strategic element to risk-sensing and reporting capabilities</td>
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<td>Advanced analytics</td>
<td>Gaining greater insight on future opportunities from current data</td>
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<td>In-memory computing</td>
<td>Manage more information about more transactions</td>
</tr>
<tr>
<td>Rules engines/</td>
<td>Connecting data and accounting through a central, rules driven, and controlled environment</td>
</tr>
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<td>accounting hubs</td>
<td></td>
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<td>Mobile platforms</td>
<td>Enabling a more productive workforce through powerful mobility devices that free the user from the desk</td>
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<td>Blockchain</td>
<td>Leveraging internet architecture to revolutionize the way we record transactions in a way that is designed to be secure, transparent, auditable, efficient, and highly resistant to outages</td>
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<td>Robotic process</td>
<td>“Taking the ‘robot’ out of the human” through elimination of mundane, repetitive, logic-driven tasks from the human process</td>
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To better understand how to manage this influx of digital disrupters, we rely on our digital controllership framework.

**Digital controllership framework**

**Plan**
- **Digital core**: Unlocking the controllership value, leveraging core ERP technologies

**Capture business events**
- **Process automation**: Enhancing digital capabilities, efficiency and controls through advanced, touchless processing

**Close & consolidate**
- **Analytics & insights**: Leveraging digital to improve and automate data analysis, decision-making, and organizational intelligence

**Report & analyze**
- **Risk & controls**: Re-evaluating the risk and controls environment amidst new technology and technological risk
Polling question #2

Which digital controllership framework dimension, if any, is a current priority for your organization?

• Digital core
• Process automation
• Analytics and insights
• Risk and controls
• Don’t know/Not applicable
## Digital core
Unlocking controllership value leveraging core ERP technologies

### Disruptor traits

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<th>Blockchain</th>
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<tr>
<td>• Enhances in-memory computing through web interface</td>
<td>• Master data governance</td>
<td>• Standard accounting processes</td>
<td>• Distributed ledger technology</td>
</tr>
<tr>
<td>• Access accounting information anywhere, anytime</td>
<td>• Universal general ledger</td>
<td>• Purpose-built systems</td>
<td>• Secure transaction management</td>
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<tr>
<td></td>
<td>• Harmonized data structure</td>
<td>• Industry agnostic</td>
<td>• Transparent between firms</td>
</tr>
<tr>
<td></td>
<td>• Real-time reporting</td>
<td>• If/then logic</td>
<td>• Outage resistant</td>
</tr>
</tbody>
</table>

### Controllership functions improved

| Financial reporting | Periodic close | Reconciliations | General accounting operations |
| Collaboration across business units | Financial reporting | Close task management | Transaction management |
| Accounting data consistency | Accounting system integration | Intercompany | Front office payment processing |
| | Improved financial analysis via more consistent data | Cash application | Back office auditing |

### Digital core growth timeline

- **Readily available**
- **Digital core**
- **Future focused**
Illustrative examples—Digital core
In-memory computing for core processing and reporting

A transportation company carried more than 23 million passengers each day on more than 12,000 trains. Using legacy technology the company could handle no more than 40,000 concurrent Internet users many of whom spent up to 30 min trying to book tickets online. With in-memory technology they can now handle more than 120,000 concurrent users. Completing a reservation now takes mere seconds.

A retailer used in-memory as part of a multi-year program to modernize their aging financial systems environment. The company’s legacy budgeting and forecasting system was more than 20 years old, and was heavily dependent on spreadsheet templates and supplementary schedules. Their solution? A new system with the ability to drill down from totals to transactional detail. The system delivered better analysis, reduced time spent on financial processes, and enhanced output view options.

An insurance company wanted to transition to a new finance platform to improve and standardize financial processes. Using in-memory technology, the company was able to gain near real-time access to data to enable analysis and support decision-making.
## Process automation
Enhancing digital capabilities, efficiency, and controls through touchless and cognitive processing

<table>
<thead>
<tr>
<th>RPA</th>
<th>Cognitive computing</th>
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</thead>
<tbody>
<tr>
<td>Mimics human actions</td>
<td>Augments human intelligence</td>
</tr>
<tr>
<td>Controllership functions improved</td>
<td>Automation spectrum</td>
</tr>
<tr>
<td>Disruptor traits</td>
<td></td>
</tr>
<tr>
<td>• Rules-based accounting processes</td>
<td>• Non-routine, judgement-based</td>
</tr>
<tr>
<td>• Tactical toolset for repetitive tasks</td>
<td>• Adapts to business needs</td>
</tr>
<tr>
<td>• Screen scraping data collection</td>
<td>• Machine learning, human reasoning</td>
</tr>
<tr>
<td>• If / then and decision tree logic</td>
<td>• Natural language, unstructured data</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Controllership functions improved</td>
<td></td>
</tr>
<tr>
<td>• Lower of cost or market valuations</td>
<td>• Identification of fictitious vendors</td>
</tr>
<tr>
<td>• Close and reporting workflow</td>
<td>• Determine best price for materials</td>
</tr>
<tr>
<td>• Production of accounting disclosures</td>
<td>• Determine accounting treatment</td>
</tr>
<tr>
<td></td>
<td>• Predictive accruals</td>
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</table>

Disruptor traits

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Illustrative example—RPA
Receiving and processing payables invoices

RPA-enabled process

Representative benefits

10 min to 4 min
Reduction in time for each transaction

Increasing overall efficiency of each process

90% to 100%
Increase in accuracy for each transaction

3 FTEs to 1 FTE
Decrease in resources required for process

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Polling question #3

What state is your organization and controllership function at with regard to process automation?

• We do not have process automation and it is not currently being considered
• We do not have process automation but are beginning to explore it as an opportunity
• We are in the process of implementing process automation systems or have selected pilots in place
• We have a fully built-out process automation system (at scale and including advanced automation and cognitive functionality)
• Don’t know/Not applicable
# Analytics and insights

Leveraging digital to improve and automate data analysis, decision-making and organizational intelligence

<table>
<thead>
<tr>
<th>Mobile platforms</th>
<th>Visualizations</th>
<th>Advanced analytics</th>
</tr>
</thead>
<tbody>
<tr>
<td>• “Portable” office</td>
<td>• Visual representations of mass data</td>
<td>• Risk sensing capabilities</td>
</tr>
<tr>
<td>• Various mobile mediums</td>
<td>• Continuous monitoring</td>
<td>• Creating value from often unused mass data</td>
</tr>
<tr>
<td>• Application-based</td>
<td>• Dashboards, etc.</td>
<td>• Reduced redundancy</td>
</tr>
<tr>
<td>• Time-efficient</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Disruptor traits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Time/Expenses</td>
<td></td>
<td>• Decreased financial risks/volatility</td>
</tr>
<tr>
<td>• Continuous reporting</td>
<td></td>
<td>• Identified spending trends/outliers</td>
</tr>
<tr>
<td>• Review accounting data anywhere</td>
<td></td>
<td>• Forecast accuracy</td>
</tr>
<tr>
<td>• Greater customer/employee financial</td>
<td></td>
<td>• Decreased financial reporting redundancy</td>
</tr>
<tr>
<td>interaction</td>
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</table>

Controller functions improved

<table>
<thead>
<tr>
<th>Complexity spectrum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less complex</td>
</tr>
<tr>
<td>More complex</td>
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</tbody>
</table>
Illustrative example—Analytics and insights
Driving descriptive, predictive, or prescriptive actions

**Descriptive (Table stakes)**

**What happened → Why and how did it happen?**
- Historical financial statement, G/L balance or transactions
- Historical dashboards, scorecards and KPIs

**Predictive (Emerging)**

**What is currently happening? → What is the next best action?**
- Statistical-based forecasting
- Scoring models
- Risk-adjusted simulations

**Prescriptive (Disruptive)**

**What is going to happen? → What does simulation tell us; the options; the pros and cons?**
- Cognitive/Artificial intelligence
- Machine learning
- Dynamic rule optimization
## Risk & controls

Digital technology requires safeguards in the new, automated environment

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<td><strong>Technology</strong></td>
<td>Infrastructure, change management, security risks must be addressed when introducing new automation as well as maintaining it over its lifecycle</td>
</tr>
<tr>
<td><strong>Regulatory</strong></td>
<td>Risk assess what can be automated; certain highly regulated processes may be “off limits”</td>
</tr>
<tr>
<td><strong>Operational</strong></td>
<td>Processing and data errors; operational monitoring and problem-solving</td>
</tr>
<tr>
<td><strong>Financial</strong></td>
<td>Accuracy, completeness and timeliness of financial data/transactions must be maintained through automation</td>
</tr>
<tr>
<td><strong>Governance</strong></td>
<td>Strategic risks around use of automation/bots in the Controller group</td>
</tr>
<tr>
<td><strong>Organizational</strong></td>
<td>Risk of unclear ownership and responsibilities throughout digital ecosystem automation</td>
</tr>
</tbody>
</table>
Implementing new digital core technologies can be bring efficiency and reduce reliance on manual processes. However, risk needs to be assessed, controls need to be designed or redesigned and ongoing monitoring measures should be implemented.

**Accounting hub implementation**

- An organization was implementing a new billing system to improve the accuracy and timeliness for their customers. Although the billing system provided the needed functionality for the customer, it did not provide the needed functionality to transform the transactions into journal entries for financial reporting.

- The company implemented an accounting hub in order to properly record the transactions from the billing system to the general ledger (i.e., revenue, deferred revenue, receivables, etc.) based on a defined set of accounting defined rules.

- Although the accounting hub automated the recording of these transactions to the general ledger, several risks were identified where controls needed to be designed and implemented. Some of these risks were completeness of data, proper financial statement presentation based on accounting defined rules, proper cut-off and valuation, system access and cyber and system security.
Polling question #4

How do you feel these digital disruptions might affect your organization’s risk and control environment?

• Likely have no impact on how we manage our risk and control environment

• Likely introduce changes to a few areas of our business and require a few adjustments to how we manage our risk and controls

• These disruptions will add significant complexity to our business and processes and expose us to even more risk

• These disruptions will add significant complexity—but they will also provide the tools we need to better manage our processes, risks and controls

• Don’t know/Not applicable
The future of controllership is now

No matter what future you see ahead for your controllership, one thing is certain: in order to compete in the digital world, controllership must manage disruption by embracing the technology behind it.

The opportunity is now.
Question and answer
Join us for our upcoming Dbriefs webcasts

April 19 at 3:00 p.m. ET as our Driving Enterprise Value series presents:

The kinetic enterprise: Which technology trends could turn your world around?

May 4 at 2:00 p.m. ET as our Controllership Perspective series presents:

The new FASB revenue recognition standard: Charting an effective implementation
Eligible viewers may now download CPE certificates.

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