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# DATA: THE STRATEGIC ASSET

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## INTRODUCTION

*With emerging technologies such as artificial intelligence, blockchain and advanced analytics, we are entering a new informational epoch. The confluence of new technologies is poised to upend the competitive landscape in a way we haven't seen since the advent of the internet.*

*Companies can only take advantage of the myriad opportunities provided by these emerging technologies if they effectively identify, protect, and utilize the new strategic asset of this informational epoch: data.*

*In this report, the Financial Education & Research Foundation (FERF) has collaborated with Ernst & Young LLP to explore the issues surrounding data strategy and quality and how companies can leverage high-quality data and emerging technologies to create a sustained competitive advantage.*

*This report includes interviews with thought leaders and the results from a survey of 206 FEI members, and provides senior finance executives with critical insights on data strategy and governance.*

## KEY FINDINGS

**Data is Disconnected:** Organizations are keen to name data as a strategic asset; however, data as an asset remains largely unmanaged by organizations.

**Clean Up the Data:** Financial executives are most concerned about data inconsistencies, poor data capture, and multiple changing data sources.

**Data-Fluent Finance Professionals are Unicorns:** There is a lack of finance professionals with data skills. The way that companies address this shortage will impact the quality of their finance organizations moving forward.

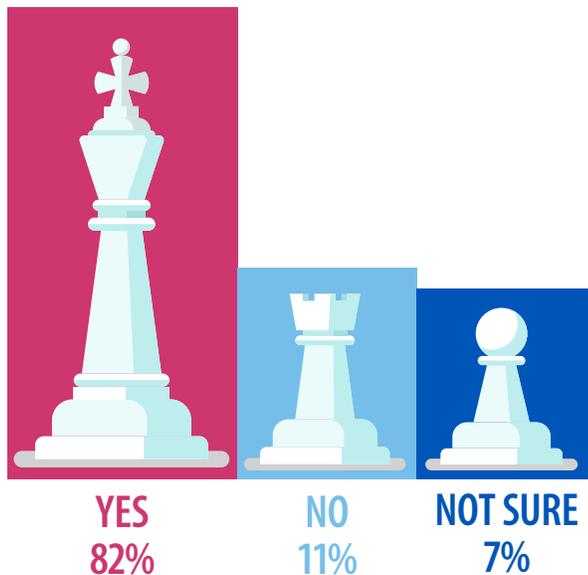
**Data Needs a Strategy:** High-quality data is a function of data strategy and the alignment it fosters among people, processes, and technology.

*"[It's] really the job of the CFO and CIO to partner up to go do this. It's not a subordinate conversation. Neither of them can do it alone. You need the business engaged. You need a driver to invest in both the people, the processes, and the technology to go solve the challenge, solve the problem, and take advantage of the value that's in the data."*

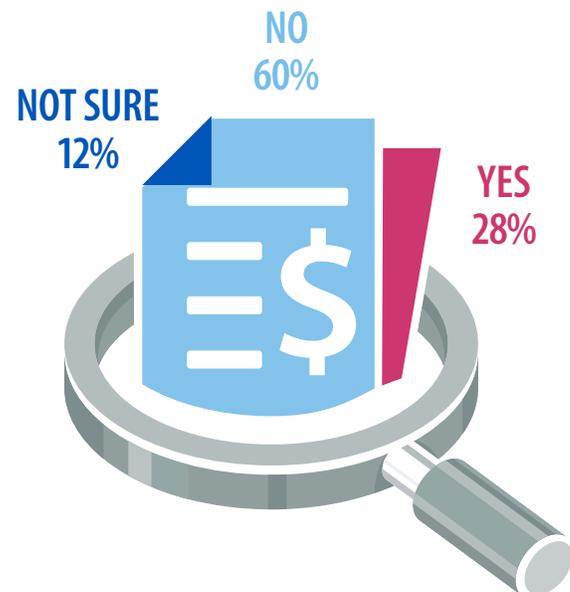
**- Saj Usman**  
*EY Americas Advisory Technology Consulting Leader*



Does your organization view its data as a strategic asset?



Have you assessed the cost of poor data quality to your organization?



Based on a Q1 2019 survey of 206 FEI members.

## THE STATE OF DATA

More than 80 percent of organizations surveyed reported viewing data as a strategic asset. At the same time, less than 30 percent of financial executives affirmed that they have considered the costs of poor-quality data to their organization. This disconnect underscores the reality where data subject to regulatory requirements (e.g., externally reported financial statements or General Data Protection Regulation) receives prioritized attention and investment, but other valuable pools of data represent vast, yet-to-be-tapped resources for many organizations.

The existing paradigm is driven by data's status as a buzzword. Professionals know that data is important, because they hear thought leaders and colleagues extolling its significance. However, until organizational understanding surrounding the role of data shifts from merely being a byproduct of the business cycle to an actual asset requiring safeguarding and cultivation, organizations will continue to find their digital transformation efforts thwarted.

“  
When you have different people getting different sets of numbers from what is – ostensibly – the same measurement, nobody believes anything.  
”

Kevin McBride, VP of Finance and Corporate Controller at Intel, comments on this current perception, saying, “By and large, I think that data is an unmanaged asset. People are not designing their processes and controls to ensure trusted data.” Beyond merely hampering transformation efforts, poor data drives data distrust.

Chris Coy, Director of Finance at GameStop, comments on the impacts of untrustworthy data, saying, “If we don’t have accurate information, we end up spending a ton of time trying to make heads or tails of what the numbers are actually saying. Then we spend even more time defending them and trying to build credibility. When you have different people getting different sets of numbers from what is — ostensibly — the same measurement, nobody believes anything.”

**Given the apparent neglect of data, financial executives have the unique opportunity to drive organizational value creation through spearheading efforts around data strategy formulation and data improvement initiatives.**

“Information is a competitive advantage, and when you don’t have access to high-quality information, you’re at a competitive disadvantage,” says McBride. “High-quality information is decision-useful, which is what you need to make business decisions. When you have poor quality, you’re making poor decisions, or the decisions are not timely and you’re missing market opportunities.”

In driving data change, high-quality data is the result of a thoughtful and coherent strategy that:

- A) considers the purposes and uses of the data, the sources of the data (people - and system-generated), and the stewards and stakeholders of the data;
- B) effectively utilizes leading approaches and technology for data governance, management, and analytics.

## **Deriving Value From Data:**

*“It’s imperative to start with the end in mind and agree on the drivers of value in the business and what needs to be communicated to stakeholders. Then you need to work back to the data necessary to develop analytics and reporting that unveil those insights. That is the data that is a strategic asset that needs protecting and nurturing. Once you’ve done this, you have to tackle the challenge of timely access to that data. It’s wonderful what can be done with advanced analytics and machine learning now, but that’s of little value if you can’t get to the data that fuels that analysis quickly enough. There are a host of approaches and new tools to help with this, which is exciting but can also be a bit overwhelming. One among many that we’re particularly keen on is data virtualization and federation.”*

*- Sam Peterson, Principal and Americas Digital Leader in the Financial Accounting Advisory Services practice at Ernst & Young LLP*

## COHERENT DATA STRATEGY

Of the organizations surveyed, less than half affirmed that they had an organizational data strategy. Given that 64 percent of organizations surveyed responded that they had invested in data quality efforts over the last 18 months and 54 percent plan to commit resources to data quality solutions in the coming 18 months, the number of organizations lacking the clarity of vision afforded by a coherent data strategy is telling.



**The best technology will be wasted in a company that does not have a strategy.**

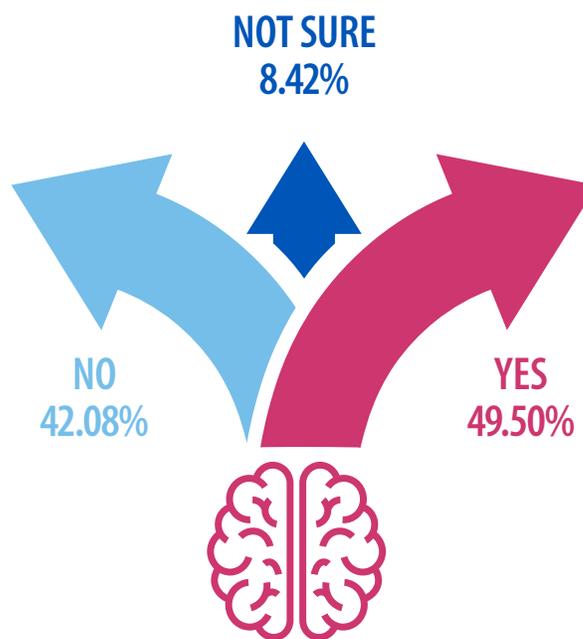


Without a clearly defined strategy, many organizations will find that their investments fail to deliver the desired outcomes. Dr. Theo Stratopoulos, Associate Professor of Information Systems at the University of Waterloo, Canada, postulates: “The key point here is that you need to have a strategy. If you don’t have a strategy, information technology is not a panacea. The successful companies that I have seen have clear strategic priorities. Once they have their strategic priorities, they can invest in information technology to enable their strategy. The best technology will be wasted in a company that does not have a strategy.”

Formulating a cogent organizational data strategy requires careful coordination and alignment between an organization’s finance, information technology, and data professionals. According to Stephen Rivera, Worldwide Senior Director of the Financial Compliance and Procedures Group at Johnson & Johnson, “the relationship has to be very collaborative, almost connected-at-the-hip.” Leveraging each group’s specialized knowledge and understanding provides a more holistic perspective from which to formulate an organizational data strategy.

According to Professor David Waterman, Adjunct Professor at Georgetown and Data Scientist at U.Group, data and information technology professionals provide necessary insights regarding the amount of data collected by an organization, the sources of that data, where and how the data is stored, and the most efficient way to ensure ease of access to that data.

Does your organization have a data/analytics strategy?



\*Based on a Q1 2019 survey of 206 FEI members



Similarly, Chris Deery, Cargill’s Finance Global Process Owner, advises that financial executives can contribute value by helping an organization consider:

- the outcomes they’re trying to deliver;
- the key decision makers and their needs;
- the company’s current capabilities.

Understanding the differences between the desired end state and the current reality further informs a cogent data strategy and the steps required to drive data transformation. On Cargill’s own data transformation, Deery says, “As a 153-year-old company, traditionally with many decentralized businesses, we estimated that 80 percent of our time was spent on collating, calibrating, and consolidating information before we did any analysis. Our transformation is focused on flipping the model completely, so we can spend that 80 percent on high-value tasks.”

## PURPOSES AND USES OF THE DATA

Data quality solutions are capital and labor intensive. What’s more, not every piece of data requires the same level of investment as others. Considering the purpose, use, and overall importance of each type of data enables greater prioritization and more efficient allocation of organizational resources.

“Sometimes things like data elements for payroll are the most governed and secure, but they aren’t necessarily the most decision-useful,” says Intel’s McBride. “You need to understand the context of the data and what is decision-useful for your business.

When we talk about data and decision-useful data, what data are we talking about? Sometimes it’s forecasted data, or it’s market data, or it’s factory data, or it’s research and development roadmap data. It could be data from testing of new products or software—new technologies. So, when I talk about data, data management, security, retrieval, access, etcetera, it’s not necessarily the general ledger data. It can be the things that are pretty far out or that never even hit the general ledger. You can’t necessarily rely on all the data you can capture in a secure, timely manner in order to make decisions.”

### Map Your Data to Chart Your Digital Transformation

Organizations can strategically evaluate their data within the context of their digital strategy by conceptually mapping each type’s organizational value and the respective level of investment as it relates to controls, systems, and people.

ORGANIZATIONAL VALUE	HIGH VALUE	<p><i>For companies that are still progressing through their digital transformation, data in this category can receive lower levels of investment due to limited resources. As data in this quadrant are of strategic importance, improving the investment and attention for data in this quadrant represent a near-term strategic opportunity. Data that can be a part of this segment can include operational data, research and development data, and product data.</i></p>	<p><i>Data that is typically found here at the present is typified by data that is highly regulated data is also valuable from an organizational perspective. (e.g., consumer information and externally reported financial information). As such, this data receives significant attention and investment from organizations. As companies progress through their digital transformation, different data types will migrate to quadrant one. (e.g. macroeconomic, metadata, operational, and transaction-level data)</i></p>
	NO VALUE OR INVESTMENT	<p><i>Data types that are currently underutilized and underinvested; these include externally sourced data (e.g., sentiment, macroeconomic, and market), transaction-level data, and metadata. As companies progress in their digital transformation, they will be able to better incorporate these sources of data, thereby obtaining deeper-levels of insight.</i></p>	<p><i>Data that receives prioritized investment and attention due to compliance needs. As its strategic value may be limited, investment should be limited to that which is sufficient to comply with regulations.</i></p>
		LEVEL OF INVESTMENT (CONTROLS, SYSTEMS & PEOPLE)	HIGH INVESTMENT

Quadrants are based on conversations with interviewees.

## SOURCES OF THE DATA

The source of the data—that is, whether the data is generated internally (via manual inputs or system generation) or externally—affects the level of controls and investment needed to collate, store, and analyze the data. Dr. Stratopoulos comments on how an organization’s data strategy informs the data sourcing decision, saying, “If the data strategy is simply to understand how the company is doing, I would go with system data, go with internal data. If your strategy is something more aggressive or something more dynamic (e.g., development of new products), you have to incorporate a lot of messy data.”

In view of the fact that the finance function spends 80 percent of its time collating, calibrating, and consolidating data, Cargill is designing its systems in a way that requires as little manual input as possible.

Then there are the external data considerations. Professor Waterman comments on the complexities associated with integrating external data, saying, “One problem that I run into all the time is that you have data sources collected by different organizations or by different people for different reasons—the way that that data is structured is going to be different and being able to unify those disparate data sets is going to be a challenge. So, it’s important to keep in mind that any time you’re incorporating an external data set, you don’t have control over whether there’s going to be some additional cost there in making that data sync with the data that you have on your own.”

Data functions like a map for the physical world. Combining external data (market, macroeconomic, and sentiment) with internal data enables organizations to have a more three-dimensional understanding of the competitive terrain.

***Kip Twitchell, Global Subject Matter Expert at IBM, comments on the differences between system-generated data and manual data:***

*“I have never seen system-generated data that has all the variability of real, live production data. The differences are so stark it is a bit like the difference between a painting of a landscape, and a real, live landscape. The system-generated data is flat; it can give the single image it was intended to produce. But if one walks to the side of the painting, the image is not interesting at all. Whereas if one walks to a different point to view a landscape, it can be just as fascinating and interesting as the original perspective. And one can walk into the landscape, just as one can walk into real production data, and find all sorts of new things within it. System-generated data never has that kind of interest to it.”*



### ***Data Strategy Drives Better Quality, Cost Savings, FEI Daily***



***The whole point of collecting the data is that we want to answer questions with it. So, being able to know the types of questions you’re going to get asked from the very beginning will help you decide how to construct your storage solution and how to construct the interface that analysts and the people accessing the data are going to be able to use.***

***Some big ideas to consider are that the best time to start collecting data is always right now because, you’re going to want to have as much of it as possible in the future. You’re going to want it to be able to go back in time as far as possible. If you think that there’s a possibility that you could make use of a certain set of data in the future, the best time to start getting that data is now.***

***Data has a big, time cost. The further back in time you go, the more informative that data is going to be and the richer it will be, so if you can collect it correctly the first time around, you’re going to be able to continue using it over and over as you collect more and more data.***

## STAKEHOLDERS

Whether it be customers, regulators, or the public, external stakeholders are expecting more relevant information at an ever-hastening cadence.

“A lot of the external companies deal with a lot of regulators. They’re really advancing their systems and their ability to use data, so their expectations have dramatically increased,” says Deery. He adds that even the relationship with customers is changing in the digital era, adding, “We have customers who are looking for data, better data, and looking to us to provide insight. Again, we’re not quite there yet in terms of how we’re able to extract it. We are really focused on that and we will get there pretty fast. But they have the expectation that we’re able to help provide information to them that makes them more competitive—gives them a competitive edge against the main players in their market. So that’s where we are from a regulation point of view. From a customer point of view, there are expectations being placed on us and we have to get better in terms of how we’re able to extract and use that information.”

Thus, ever-increasing expectations provide organizations with opportunities to improve existing processes and technology as they rise to meet stakeholder requirements. Data exposure represents an additional avenue of data development. IBM’s Kip Twitchell enumerates the benefits of data exposure, commenting, “Exposing the data exposes its errors and problems.” This exposure “cleans it up faster than any other method. Using the data and viewing the output with correcting mechanisms in a controlled, coherent way generates improved data quality.”

## TECHNOLOGY, MANAGEMENT, AND PROCESSES

Technology, people, and processes form the bedrock of organizational data quality. IBM’s Twitchell explains, “When technology is written in such a way that it’s sloppy, it’s not exacting—that’s going to be a serious data quality management weakness. You need technology that values your data as much as you do. If your process for security allows anyone to have access to the data without audit trails, then you show that you don’t value your data. Processes impact the data as much as poor technology. Finding people that love data is difficult. If you have people that are attracted to and value data, you’re going to sense what is going to create and preserve value in that data, and how to do that. Processes are defined by people. Technology is written by people. If you have people that value data, you have a much better chance behind those pillars of having quality data that is useful for your organization.”



It’s everyone’s job. It’s not IT’s problem. It’s not finance’s problem. It’s not sales’ problem. It’s everybody’s problem. Building that ecosystem across the enterprise of people that care about that, understand the impact of that, and are engaged in the process of managing data as a strategic asset, is a really key foundational element to addressing some of the challenges.

- Saj Usman  
*EY Americas Advisory Technology Consulting Leader*

## CONTROLS

### Financial Executives Divulge Their Most Commonly Employed Data Controls

1

**Defined data owners and stakeholders for data types;**

2

**Processes to standardize and normalize data; and**

3

**Data Quality Rules**



Given seven alternatives in a Q1 2019 survey, 206 FEI members indicated the data controls they have in place.

While required and helpful, data controls can be tedious. Thus, instituting new or different controls requires understanding the overall business process. Twitchell reflects: “A mentor of mine once mused, ‘Who would have thought that giving people cars and letting them drive at high speeds on the road would work?’ People get to where they need to by following rules and procedures. Can you make your data control process something that enables them to do what they need to do without creating a burden?” Designing controls to empower, rather than hinder, necessarily stems from trusting an organization’s people and technology.

## PEOPLE

Almost 60 percent of organizations surveyed (59.39 percent) implemented data quality review programs using internal staff. This speaks to the level of confidence that organizations have in their people. Still, Dr. Stratopoulos posits that it could be better if there was greater cooperation between finance and data professionals. “Your business people need to have some basic understanding of data, and your data people need to have some understanding of your business process. If these two groups don’t understand each other, they just do their own work, and your business is going to miss out. You need the people who are going to be the bridge between your data scientists and your business decision makers.” This becomes increasingly important as data professionals aren’t typically accustomed to operating in the robust control latticework in which finance operates. In order to bridge this gap, Coy from GameStop comments that, “You need to have cross-functional teams—whether it’s formal teams, or just IT, or intercompany relationships where people are talking to each other. We need to get out of our silos and understand the wider business impacts.”

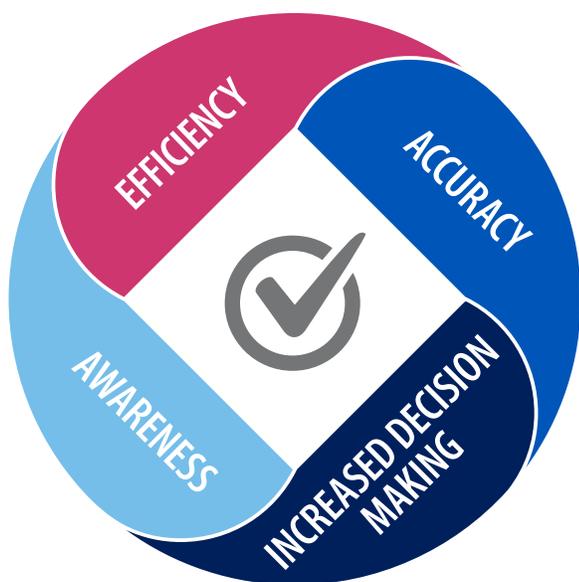
## LEADING TECHNOLOGY

A company's information technology represents the infrastructure by which data is captured, stored, and processed on the way to becoming actionable information.

According to Johnson & Johnson's Stephen Rivera, failing to keep up with technological innovations can have unexpected impacts on data quality related to talent retention. "Some companies haven't moved the needle in that they need to ensure that they have the latest technology for their employees. Technology innovation becomes an important element in talent development. This young generation comes in and they think we have the latest and greatest sitting on all desktops, and many times we don't. They're coming out of universities and colleges with better-quality technology, and they go to a big company and realize that some of these companies are still dated 10 years. Inadequate technology innovation strains employee resources and work-life balance as they spend more time gathering data versus analyzing and execution."

The conversation surrounding data has shifted and continues to shift. "Over the last few years, we've seen data become an increasingly important focus for companies as it relates to managing master data, managing the processes with respect to master data, storage of data, ownership of data, retrieval of data, and data security—among other important data quality issues. As a profession, we all knew that these elements of data existed, but it isn't something that we put the necessary time and energy into," says Intel's McBride.

If they want to drive real transformation, financial executives need to lead from the frontlines. This leadership is manifested through the establishment of a high-quality data culture. Mahesh Shetty, President and Chief Financial Officer at SG Blocks, comments on the benefits of this culture, saying, "Like the old maxim says, 'you trust what you find,' meaning that you trust the data in front of you but always verify the source. When you have that culture in your organization, it automatically leads to integrity up and down the value chain or hierarchy. This allows people to let the data speak for itself. The world of finance is able to present data un-garnished and facilitates building integrity within the organization. This is how you build credibility for the company."



## The Biggest Benefits from Data Improvement Programs

From a Q1 2019 survey of 206 FEI members

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## Season 1, Episode 6 — [Corporate reporting in the age of disruption](#)<sup>1</sup>

Financial Executive International's 2017 Current Financial Reporting Issues Conference co-chairs, Sharon Virag and Heather Dixon, speak with EY's Myles Corson on how the financial reporting function can help their organizations evolve and change in the era of disruption.

## Season 2, Episode 8 — [When Great Technology Meets Great Finance Professionals](#)<sup>2</sup>

This special episode features an abridged recording of "When Great Technology Meets Great Finance Professionals", a session from the 2018 Current Financial Reporting Issues Conference hosted by FEI. The panel, moderated by Myles Corson, included David Fabricant, SVP, Global Record to Report Controller at American Express and Dan Werries, formerly Global Director for Finance Systems, Purchasing Systems & Analytics at the Dow Chemical Co. and now VP Information Technology, Corporate Enablement at Intel.

<sup>1</sup> [https://www.ey.com/en\\_us/podcasts/better-finance-podcast-series/2017/12/season-1-episode-6-corporate-reporting-in-an-age-of-disruption](https://www.ey.com/en_us/podcasts/better-finance-podcast-series/2017/12/season-1-episode-6-corporate-reporting-in-an-age-of-disruption)

<sup>2</sup> [https://www.ey.com/en\\_us/podcasts/better-finance-podcast-series/2019/09/season-2-episode-8-when-technology-meets-great-finance-professionals](https://www.ey.com/en_us/podcasts/better-finance-podcast-series/2019/09/season-2-episode-8-when-technology-meets-great-finance-professionals)



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