

**Protect value**

**Create value**

The role of the CFO and  
finance function in a 4.0 world



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The better the answer.  
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Building a better  
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## Introducing a 4.0 world

We are entering the fourth industrial revolution, also known as 'Industry 4.0'. Demographic shifts, combined with globalisation and the rapid development of digital technologies, will bring significant changes to the way we live and work.

In a 4.0 world, smart technologies will redefine industry and business models. Consumers will have significantly more purchasing power over what and how they buy. Automation will continue to displace manual work, whilst also creating new jobs and sectors. The ability to join up and analyse vast amounts of data will generate extraordinary insights into ourselves, our organisations and our societies. That said, it will also create ethical and moral issues.<sup>1</sup>

The CFO will need to respond, both in terms of supporting the business in the face of disruption and ensuring the finance function is fit for a 4.0 world. However, with the erosion of trust in institutions and businesses we are witnessing today, purpose, trust and transparency will become central to the way organisations interact with their stakeholders.

In an increasingly complex world, particularly in reporting, how does finance stay relevant and trusted by those who rely on what it does?



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# Disruption is everywhere

Digital disruption is clearly visible in every sector of the economy, accelerating at levels not seen in any previous era of technology-led change.

Yet well-established companies can fall victim to disruption, the reasons for which have been well documented in Clayton Christensen's book, *The Innovator's Dilemma*.<sup>2</sup> Disruptive companies change the rules and exponentially increase performance. The disrupted organisations don't see the change coming or don't appreciate the impact until it is too late. Their mindset, business models, structures, systems, processes and culture are geared towards making money in today's 3.0 world.

## Evidence of disruption is all around

- ▶ Uber and Airbnb have created new business models that are disrupting their traditional industries
- ▶ Amazon has deployed 15,000 Kiva robots in its warehouses to lift and move shelves of items<sup>3</sup>
- ▶ Telefonica O2 has deployed over 160 software robots to process between 400-500,000 transactions per month – eliminating 35% of manual processing<sup>4</sup>
- ▶ IBM Watson is being used to process billions of images of X-rays, CT scans, and MRI scans to help doctors diagnose ailments like cancer and heart disease.<sup>5</sup>

## There is major disruption ahead

- ▶ In the automotive sector, the make-up of a car's value is shifting from being 90% hardware based<sup>6</sup> to 50% software based, enabling companies like Alphabet and Apple to compete directly with car manufacturers for ownership of the dashboard
- ▶ In our homes, smart metering will allow utilities to collect almost 35,000 data points each year. Today it is four quarterly data points.<sup>1</sup> That's an increase of billions of additional data points across the UK's 27 million households
- ▶ In the air, the world's first commercial drone was launched recently in Rwanda to deliver blood to remote health centres.

## The breadth of change will accelerate

- ▶ By 2020 there will be 4.1 billion internet users worldwide, up from 3 billion in 2015<sup>7</sup>
- ▶ Gartner<sup>8</sup> estimates that 5.5 million new things are being connected to the internet every day
- ▶ Mobile data traffic is forecast to grow at a compound annual growth rate (CAGR) of 53% from 2015 to 2020, reaching 30.6 exabytes per month by 2020.<sup>9</sup>

## Are you ready?

- ▶ How will this wave of digital disruption change your organisation's business model?
- ▶ How do you strike the right balance between protecting and creating value?
- ▶ What is the size and shape of your finance function?
- ▶ In a world where the nature of value has changed from an asset to a knowledge-based economy, how does your finance function communicate the value of what the enterprise does to all its stakeholders?
- ▶ In a world where the relationship between society and its institutions is changing, how does your finance function stay relevant to, and trusted by, those who rely on what it does?



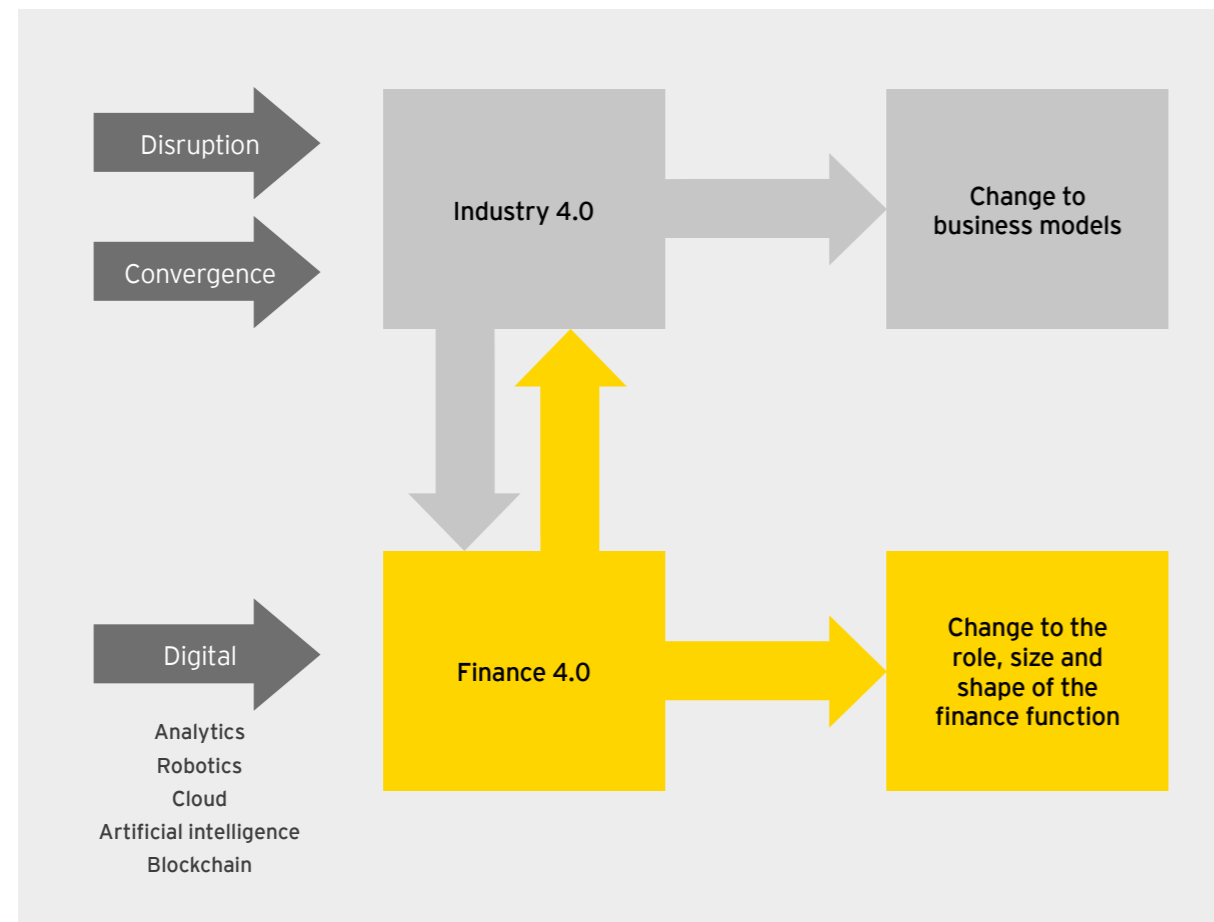
# The CFO and finance function in a 4.0 world

In the same way that digital technologies disrupt company business models, they will also present new opportunities to transform finance.

Analytics, cloud and robotic process technologies will enable the CFO and the finance function to add significantly more value to the business, at speeds much faster than today.

This will be in real-time, at a greatly reduced cost, with higher levels of automated control and lower levels of risk. Artificial intelligence (AI) can generate detailed insight, and whilst Blockchain is in its infancy, it has the potential to challenge many of today's accepted norms of how we do business. The size and shape of finance will change, as well as its role in the business and the value it provides.

## From Industry 4.0 to Finance 4.0



## New technologies Significant potential

- Data & analytics**

Analytics technologies give the finance function the tools to add significantly more insight to the business. Extracting and processing large amounts of data improves the ability to predict outcomes and better understand the financial impact of key decisions. To fully maximise the use of this technology, the finance community will need to build its capabilities around accessing, understanding and analysing data output.
- Cloud**

Cloud technologies will increasingly replace outdated, fragmented, and inflexible legacy systems of record. They will bring standardisation, flexibility and cost reduction as a result of adoption of payment per usage. However, CFOs will need to proactively manage the associated risks of these technologies, particularly in relation to data security and compliance in different regulatory regimes.
- Robotics**

Robotic process automation has the potential to impact the back and mid-offices in a similar way as robotic factory automation has on the shop floor over the last 20 years. Robots are fast, reliable and always present for routine manual processes. Their work can be clearly audited and with an average cost of £8,000 compared to £25,000 for an offshore employee, the business case is compelling.
- Artificial intelligence**

AI systems such as Siri, Google Now and Cortana are capable of ingesting and making sense of very large data sets much more efficiently than humans. The key benefit over traditional data and analytics is the ability not just to follow rules, but also to recognise patterns, and to learn and adapt to new situations, including new accounting or tax regulations.
- Blockchain**

Conducting business today requires an industry of trusted middlemen – bankers, lawyers, accountants and auditors – to record and assure what's been done. Blockchain reinvents this through distributed ledger technology, which gives every network participant a secure audit trail of all transactions ever made in near real-time. It allows trade directly between parties without the need for intermediaries. The question is, who will audit the blockchain?

## New technologies Old challenges

Many finance functions today inhabit a world of batch-based legacy systems, often with multiple instances, complex processes and deeply embedded, disparate sources of data. Whilst these systems have become efficient and stable over a number of years, it is this stability that presents a key obstacle in the evolution to a digitally integrated business. Traditional batch systems

and legacy architectures were not designed to accommodate real-time transactions or cloud services. Despite this, one survey<sup>10</sup> revealed that many Boards see the process of fundamental system's modernisation as overly complex, too costly and involving unacceptable levels of risk. 'Legacy' in this regard clearly extends beyond the technology into culture, attitudes and mindset.



## More complex Less useful

A key role of the CFO and the finance function is to communicate the value of the organisation to stakeholders to enable them to make decisions. However, the nature of value has changed in the last 30 years.

When the principles of modern corporate reporting were established in the 1970s, manufacturing was at the heart of the global economy. In 1975, around 80% of the S&P market value was reflected in the physical assets reported on the balance sheets of its constituent companies; today it is less than 50% globally, and less still in the US.

The change has been brought about by the increasing importance of intangible assets such as brands, patents, IT and know-how. Entire industries have developed in the last 30 years such as software and biotech, which are predominantly intangible. However, accounting and reporting systems do not generally identify, measure or report intangible assets, and hence their importance in the value creation process is missed. This value gap undermines the completeness and effectiveness of reporting.

In their latest book, *The End of Accounting*, Baruch Lev and Feng Gu document that “the failure of the accounting system to reflect the value of these assets in financial reports, to properly account for their impact on firms’

operations, and to provide investors with information about the exposure of these assets to the threats of infringement and disruption, is a major cause of accounting’s relevance lost.”<sup>11</sup>

For the components of value that are measured, increased regulatory and accounting requirements are driving more complex reporting. However, there is a point at which increased complexity leads to decreasing usefulness to the users of the information. In EY’s latest Global Reporting Survey, 68% of respondents said that complexity of the regulatory environment was having a significant impact on the effectiveness of reporting, up from 57% in 2015.<sup>12</sup>

A lack of timeliness of reporting adds to the problem. By the time the annual report is published, it is estimated that only 5% of the information content is new to investors. The balance is already in the public domain. By contrast, more timely Securities and Exchange Commission filings and analyst’s forecasts (in the US) are estimated to contribute as much as 45% of the information used by investors.<sup>11</sup>

External stakeholders are increasingly looking for future trends in areas such as strategy, sustainability and how risks are being managed. These developments mirror the broader evolution of the finance function from a controlling, backward-looking function, to a more strategic, forward-looking one. This requires a greater emphasis on leading indicators of performance – for example, the number of customers month-on-month, how they were acquired, acquisition costs per customer and so on – in addition to the conventional role of analysing past variances.

In an interview with Bloomberg BNA, Sandy Peters, CPA, CFA, Head of the Financial Reporting Policy Group said, “Measurements and disclosures based on current values and expectations of the future are inherently more relevant to investment decision-making than disclosures based on historical measures – which may be highly reliable but lack relevance because of their inability to provide insight into current or future expectations of cash flows.”<sup>13</sup>

Accountants need to re-evaluate what is reported and to whom.



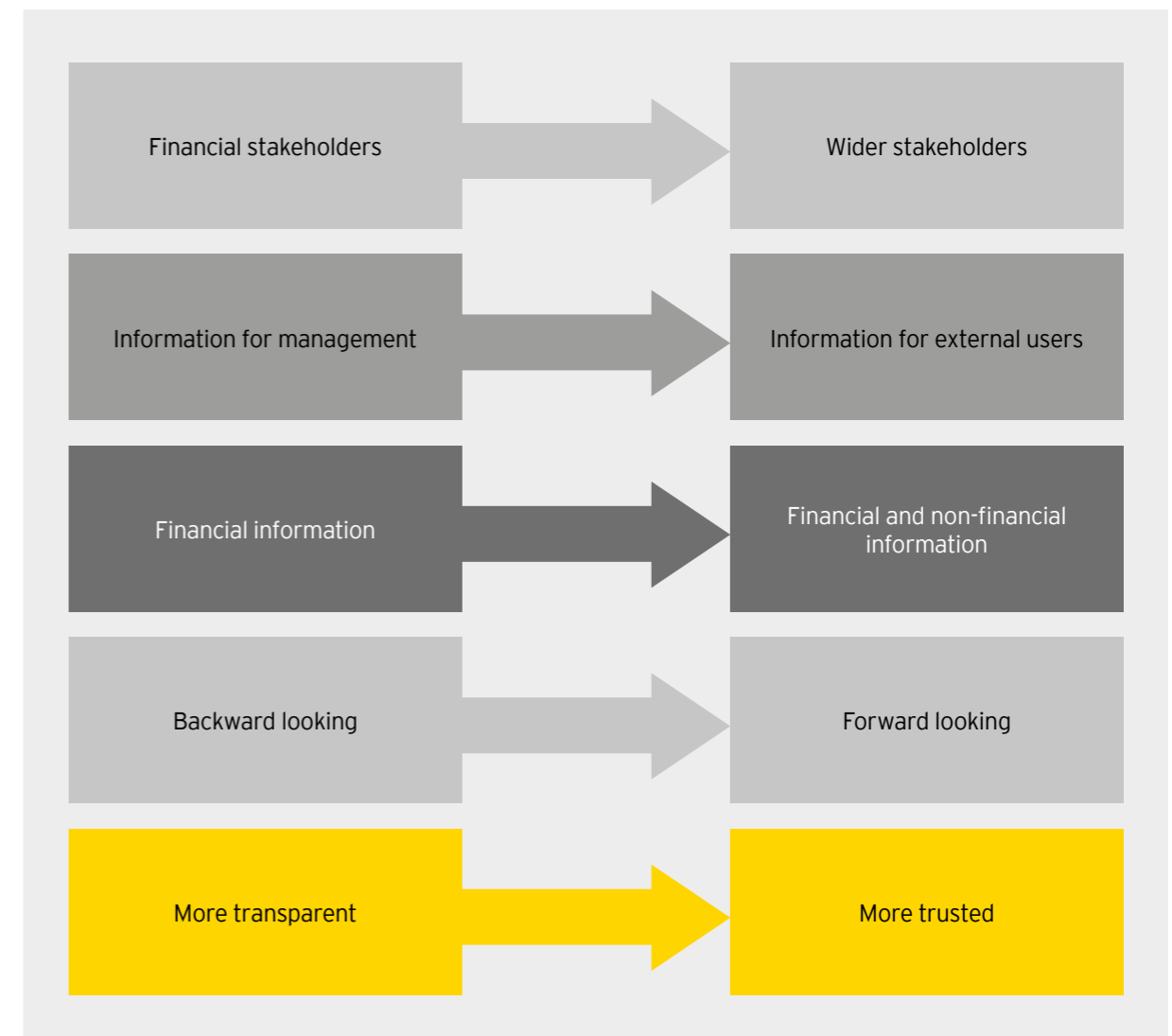
## More relevant More useful

To become more relevant and useful the finance function will need to:

- ▶ Define more clearly the different stakeholder groups and the specific outcomes they require, in the same way as an organisation segments and manages its customer base. For example, generating long-term shareholder returns, operating ethical supply chains, reducing the impact on the environment and so on.
- ▶ Understand the strategic assets needed to meet the desired outcomes, such as patents, brands, loyal customers and unique business processes for each material stakeholder group. These relate to all business assets, not just the conventional assets on the balance sheet.
- ▶ Understand the extent of investment in strategic assets, together with how the business seeks to deploy and protect those assets to sustain competitive advantage.
- ▶ Ensure systems and processes capture, record, and report these broader assets.
- ▶ Report meaningful drivers of performance in the form of relevant non-financial information.
- ▶ Focus increasingly on the future as well as the past.

In short, executives will need to explain how their organisations create long-term value for all their material stakeholders.<sup>14</sup>

### Finance focus in a 4.0 world



The EY survey<sup>12</sup> found that a key challenge to addressing corporate reporting was the complexity and cost of tackling the legacy IT environment, including a lack of integration between IT systems, a lack of automation across systems, the number of reporting systems and issues with consistency and quality of data. In addition to driving change to the size and shape of finance, the next wave of technological advances has the potential to transform the value that finance adds across the organisation.



## More transparent More trust

The issue of trust in business has remained in the spotlight since the global financial crisis and it will only be amplified in the hyper-connected 4.0 world. The financial impact of reputational events, such as accounting or other scandals, is often disproportionate and prolonged. As CFOs increasingly become the public face of company performance, they need to pay close attention, not just to the organisation's legal compliance, but also to its corporate and social responsibilities (CSR).

Companies are under growing scrutiny by regulators, customers, employees and investors. Whilst CSR is a priority for all finance leaders, in a recent EY survey it was found to be a greater focus for younger CFOs (39 years or younger).<sup>15</sup> They have grown up in a world where CSR has become increasingly important.

As things stand today, there is a disconnect between information available to managers, and to investors and other stakeholders. This raises the question of the extent to which

companies believe they have a responsibility to address this. Bridging the gap between the information requirements of internal and external stakeholders would allow organisations to explain their value creation process more effectively. It would provide greater transparency on the resources used by the organisation in the value creation process, and allow better communication with stakeholders on the long-term vision and strategy.

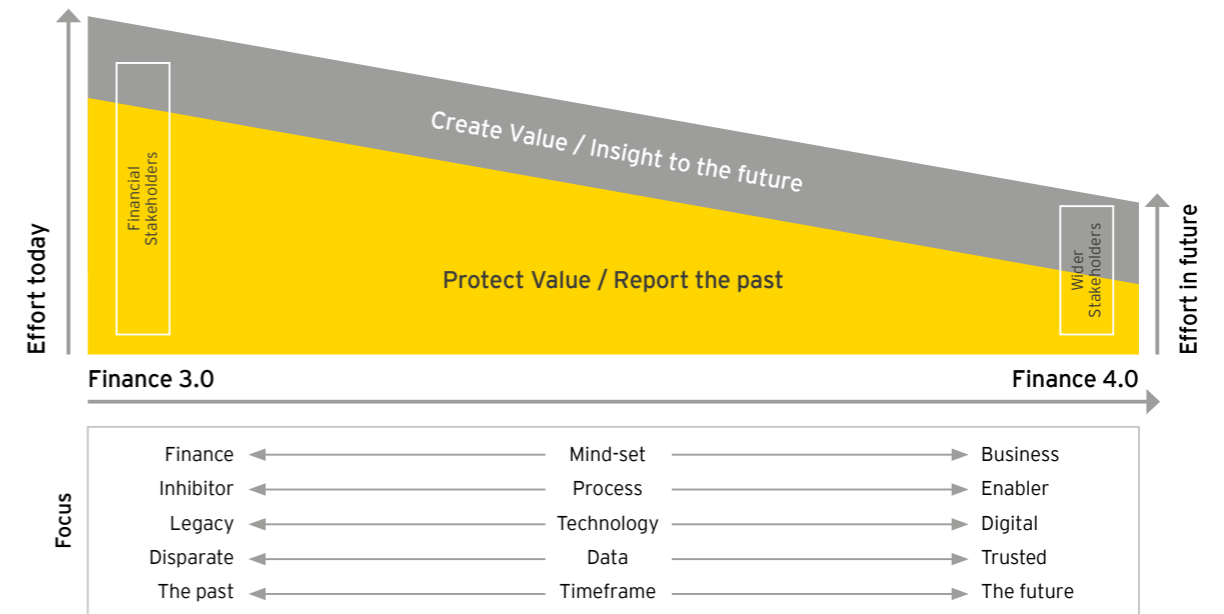
Purpose-driven organisations – those that demonstrate with transparency the 'what', 'how' and 'why' of what they do to meet the needs of their wider stakeholders – are shown to be more likely to be trusted by employees, customers and wider society.

This raises the question of who will be the trust-giver in a world where non-financial information is becoming increasingly important to stakeholder decisions.



## The role, size and shape of finance in a 4.0 world

### The size and shape of finance will change



Bringing these themes together, the next wave of digital technologies will bring change to the role, size and shape of finance.

In a 4.0 world, finance will be a smaller function than today, but with a higher proportion of more highly skilled and higher paid people. The numbers of lower paid roles in today's 'finance factories' will lessen, as robotic process automation increasingly takes over routine, repetitive work. By contrast, the next generation of centres of excellence will expand to focus on advanced data and analytics to enable better insights about the business, its markets, and strategies. The increasing democratisation of data will continue to close the gap between information available to management and to wider stakeholders. New roles will emerge, especially in the field of data and analytics, with 'data custodian' becoming a key role.

The finance mindset will shift towards creating value for the business by providing insight to the future. Reporting the past will become efficient and timely and will consume fewer resources

than today. Control will be more automated. Finance will report information relevant to a wider group of stakeholders, including more non-financial data, increasingly on a near real time basis. This will include new frameworks to measure the long-term value of the organisation. The finance community will become the trust-giver to stakeholders around non-financial information, much in the same way as it provides trust and confidence for investors around financial data.

In short, the finance function will do more, better, faster and for less cost.

Create value or protect value?  
The answer of course is both.  
However, it is important to clearly communicate the value of what companies do, how they do it and why they do it, to all stakeholders.

# Summary

## Disruption

- ▶ Disruption is already here - more disruption lies ahead and the pace of change will accelerate
- ▶ For organisations to thrive in a 4.0 world, a changing attitude and mind-set are essential
- ▶ Digital technologies will drive the next phase of finance transformation
- ▶ Finance leaders need to understand them and to decide how and when to invest
- ▶ Disruption will drive change to the size and shape of finance, and require a more flexible and agile model.

## Relevance

- ▶ In a 4.0 world finance will have responsibilities to a broader set of stakeholders
- ▶ Frameworks will need to be developed to identify, measure, report and assure more meaningful measures of the long-term value of the organisation
- ▶ The need for more forward-looking information will increase.

## Trust

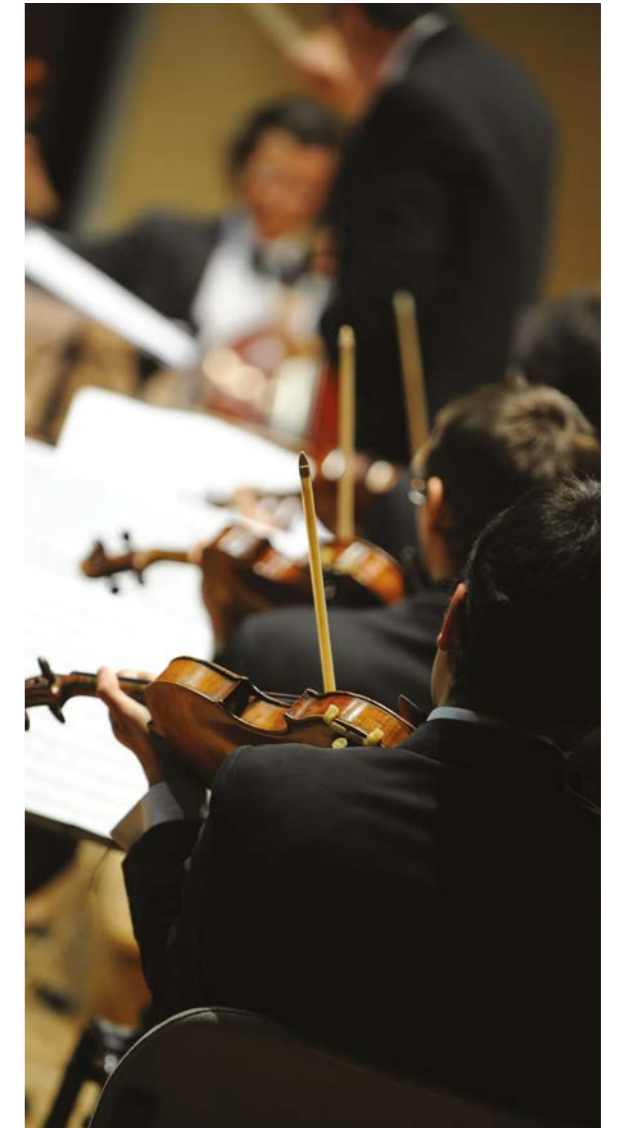
- ▶ The finance function will become the trust-giver to stakeholders around non-financial information
- ▶ Bridging the information gap between internal and external stakeholders will bring greater transparency.

## CFOs should ask ...

- ▶ How does the finance function respond to business disruption in the digital age?
- ▶ What is the size and shape of finance in a 4.0 world?
- ▶ What is the role of the CFO of the future?
- ▶ What type of people are needed in future finance?
- ▶ How does the finance function become the trust-giver over non-financial data?
- ▶ How do we explain long-term value to all our material stakeholders?

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