

The Future of the CFO

Innovating the Finance Function in the

New World of Business

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Executive Summary: The office of the CFO is rapidly becoming the organizational center of value creation and a key hub of innovation. To fulfill this role, the CFO needs strong connections to people, processes and information across the entire organization, and useful ways to derive insights from the increasing complexity of financial data. This paper examines how the finance function may change and evolve in a world of dynamic and unpredictable social, economic, and demographic change, and how strategic investments in information-work technology can help the CFO stay ahead of new opportunities and risks.

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OVERVIEW

The Chief Financial Officer (CFO) has always been an important member of executive management, but the role has grown more visible, and the responsibilities more important, as market and regulatory attention to corporate finances has increased. Situations such as the subprime investment failures, airline maintenance issues in transportation, manufacturing recalls for toys, vitamins and pet food, approved drugs being removed from the market after new side effects emerged, agricultural recalls due to e coli outbreaks and pricing variations driven by currency and fuel markets make the CFO the center of attention when it comes to organizations that need to identify risk and take advantage of opportunities. With so many unexpected challenges from every direction, all CFOs must ask themselves if they are in the best position to steer the company through the next critical situation.

Findings from the new CFO Research Service Study, *The Finance Function as an Enabler for Innovation*, point toward a continued evolution of finance within the organization. In short, the finance function is transitioning from an industrial-age set of requirements that centered mostly on quantitative performance and accounting towards a more proactive role at the center of the knowledge-based, learning organizations that will dominate the 21st century economy. The change is already underway. Over the next 10-12 years, the responsibilities of the CFO will increase. Other disciplines within the business will look to finance to support innovation, to facilitate internal and external value creation, and to lead workplace “co-creation” efforts that will ensure business continuity in response to societal and demographic changes.

New developments in information technology (IT) can help the CFO stay ahead of the curve – but software, services and servers are only part of the story. Although software can connect people with information, processes and one another, it is the content of those conversations, the quality of insights into data, and the outcomes of people’s decisions that actually drive business performance. Highly-structured systems can affect cost-savings, but to truly support the emergent role of the CFO as a value-creator, strategic partner, and innovator within the business, IT investments should focus on empowering people to recognize and act on opportunities.

The CFO is in a unique position to be the enabler, or the barrier, to the implementation of new information capabilities and practices that lead the transformation of the business from rigid to dynamic. While the CIO generally takes the lead in governance of the specific IT systems, the CFO

“...the business will look to finance to support innovation, to facilitate internal and external value creation, and to lead workplace “co-creation” efforts...”

speaks for the business. That's why it is arguably even more important for the CFO to understand the impact and capabilities of technology in a business context, and participate at eye-level with the CIO in conversations about strategic IT investments.

This white paper looks at some of the changes a CFO will face over the next decade, how they affect the role and the responsibilities of the CFO, and the various ways organizations can adapt through the evolution of practices, processes, and emerging IT solutions.

Though we take note of different dynamics shaping the future – such as globalization, ubiquitous networks, demographic change, and increasing transparency – we do not presume that these trends point to any certain set of future business conditions. Trends are not destiny. Globalization could lead to increased economic integration, or nationalist backlash. The demographics of an aging workforce could create a debilitating shortage of skilled workers, or could lead to dramatic changes in the workplace and a productive blend of generations. In the face of these types of uncertainties, engineering a rigid set of business processes or a rigid IT infrastructure in anticipation of one particular outcome presents an enormous degree of risk. The most resilient posture for the business – and the CFO – in the face of dynamic and uncertain change is to retain control at the center, but ensure flexibility at the edge. (See Appendix A for a further exploration of how different assumptions about the future may change the role and responsibilities of the CFO).

MANAGE OPPORTUNITY AND RISK IN A DYNAMIC WORLD

As the CFO role evolves from reactive (“cost accountant”) to anticipatory (“value creator”), CFOs will broaden and deepen their focus in four main areas:

1. **Provide strategic insight** by identifying opportunities and cause-and-effect relationships in a wide range of data that affects the governance of an organization, then leading the finance-related functions to support strategy.
2. **Empower success** by giving people and teams the resources they need to work better together.
3. **Support Innovation** by becoming more nimble and responsive to the needs of business units operating at the leading edge of the demand curve.
4. **Reduce risk** by identifying potential points of failure, areas of exposure, and blind spots in complex processes, markets and business relationships.

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CFOs will benefit from innovations in software and technology over the next 10-12 years. New systems, devices and software solutions will drive visibility into the deepest layers of the organization and bubble insights to the surface. Easier-to-use dashboards and digital scorecards will help business leaders throughout the organization stay tuned to the most important indicators of performance. New workplace technologies will enable qualitative as well as quantitative insights and help organizations rationally navigate change in order to create a business that remains competitive and differentiated as markets evolve. Organizations should prepare for changes to workstyles, processes, and the organizational culture which result from the increasing use of consumer technology by customers and workers. This blend of consumer and enterprise technology is driving expectations for transparency, immediate feedback, and collaborative practices. To meet those expectations, organizations require software that is flexible, agile, and responsive.

PROVIDE STRATEGIC INSIGHTS

The CFO is a trusted advisor to the business, often at the center of strategic discussions around growth, innovation, acquisition, process optimization, and workforce development. The role of the CFO is to ensure those discussions rest on a groundwork of solid financial assumptions, and that the business is drawing the right conclusions from the trends in its financial performance and market conditions.

According to a 2008 study by CFO Financial Services (commissioned by Microsoft), respondents see finance benefiting the business most by helping to craft, tune and optimize business models (see Figure 1 below). Secondly, CFOs want insight into selling, marketing and pricing practices, and into IT's contribution to the business, to foster the success of those disciplines. Gaining insight and providing support in these areas depends on having deeper visibility across the business, good ways to measure the value they create and contribute (in both quantitative and qualitative dimensions), and better levers to support diverse growth models in the face of rapid change.

“The role of the CFO is to ensure discussions rest on solid financial assumptions ”

Respondents say finance’s help is most needed in crafting, tuning, and optimizing business models

In your opinion, which of the following business activities at your company would benefit the most from a greater contribution from the finance team? (Please choose your top three.)

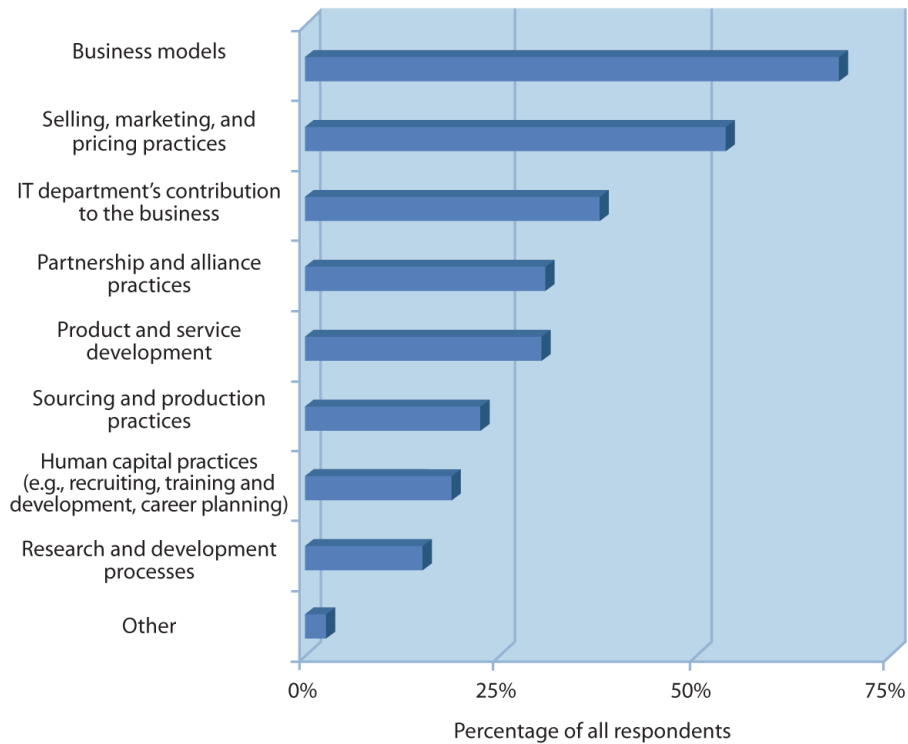


Figure 1: CFO Research Survey Results

A Complete View of the Business: To effectively change and tune the business model, the CFO must first have as complete a view as possible of the current state of the business. Current-day business analytic tools provide a steady stream of real-time business data, abstracted into the useful shorthand of dashboards and scorecards. Useful as that information is, it provides only a single dimension of insight and may provide a false sense of confidence. Organizations should ask themselves if they are doing the right things, not just doing things right.

As tools for visualization become more sophisticated, they will allow finance executives to drill down into specific processes to look at the “why” behind processes in addition to the “what” and “how much.” Mashups are one early example of a technology that builds on the interoperability of a services-oriented architecture (SOA) to enable people to overlay data from diverse systems in a single, synchronized view to expose underlying

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patterns and identify unexpected correlations. Over the next ten years, finance executives will increasingly depend on these kinds of flexible, intuitive analytics to replace the static snapshots provided by traditional database and reporting systems.

Collaborating with Business Managers: Business analytics provide a process-centric view of the enterprise, but to gain real insight, finance needs direct ways to collaborate with colleagues in operations, marketing, human resources, sales, and other disciplines that directly face the customer and the marketplace. The past few years have seen the wide implementation of various new modes of collaboration, including instant messaging (IM), shared workspaces, online meetings, voice over IP, document repositories, and integrated communications (voice/fax/data) platforms. Today's leading-edge consumer technologies such as social networking, blogging, wikis, subscription-based content, and video media, are also now finding their way into corporate enterprise environments, where young workers are often leading the way in the discovery of new business applications.

Both the new means of collaboration and the networked, team-oriented instincts of Millennial generation workers (born since 1981) can infuse a more collaborative spirit into the traditional workplace, and help lower the boundaries that separated business units, or segregated finance into a support role. Some businesses are using blogs and communities of practice to connect experts working in different departments or geographic locations. Expertise directories and location services can help people find the right colleagues to collaborate with, bringing stakeholders such as finance into the conversation at an earlier point and smoothing out potential pitfalls. Instant messaging and other real-time communication media can be used to engage people on an ad hoc basis to resolve questions immediately.

One potentially exciting innovation in collaboration technology is the introduction of context-awareness. Even the most full-featured email or IM systems remain ignorant of the content of the communication that pass through them, leaving it to the end-user to assign priority, category, trust and relevance to an increasingly large and intrusive set of communications. Advances in pattern recognition and machine learning may soon provide a layer of abstraction to distill the productive aspects of collaboration from the noise of interruptions and information overload. For example, unified communications systems that identify an inbound call or instant message could simultaneously open recent files, shared workspaces, and communication threads associated with the caller, so the

“...to gain real insight, finance needs direct ways to collaborate with colleagues in disciplines that directly face the customer and the marketplace.”

financial professional has all the relevant materials at hand for the conversation. Better management of collaboration will make it easier for finance to engage in business decision-making and strategy as appropriate without becoming over-extended.

Qualitative Metrics and Unstructured Work: It is relatively straightforward to measure the productivity of structured tasks using the traditional ratio of inputs to outputs. However, in many organizations, the greatest value resides in the unstructured work of knowledge creation, collaboration, relationship-building, and design in the broadest sense. Part of the CFO's role moving forward is to marshal these types of qualitative assets to support business growth. But to do that, it is first necessary to assess their actual value.

Business writers such as Thomas Davenport point out that the true value-creators are not always evident from looking at the org-chart. Knowledge and leadership do not correlate exactly to roles and titles. However, because so many interactions within the enterprise now take place via email, real-time communication, document collaboration, social networking and other technology-mediated methods, it is possible to locate the hot spots of conversation and innovation within organizations by looking at the outputs of those systems. This does not mean spying on the private communications of employees. Simply charting the quantity of communication produced and consumed by various people and teams can tell the story of who has influence, who is seen as a resource, who is a main contributor to projects and documents, and who makes the most use of team and enterprise assets in their work. The result is an "influence map" such as seen in Figure 2:

"...in many organizations, the greatest value resides in the unstructured work of knowledge creation, collaboration, relationship-building, and design in the broadest sense."

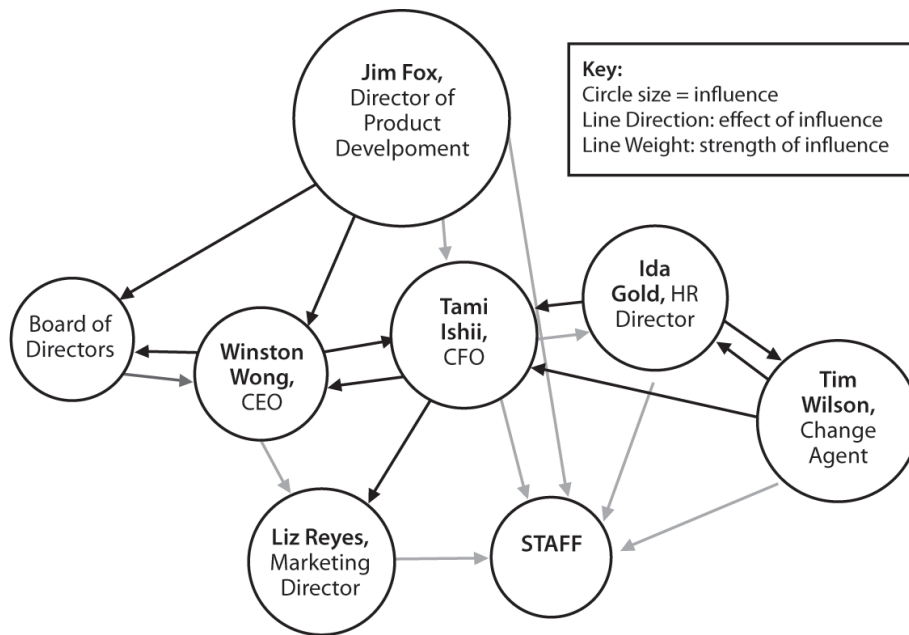


Figure 2: Example Influence Map

These kinds of visualizations supplement the quantitative metrics provided by traditional BI and analytics to offer the CFO deep visibility into the productivity of unstructured work. This will help CFOs improve baseline business performance not just by addressing points of failure in structured processes, but by creating the conditions for better teamwork, better utilization of knowledge in customer-facing processes, more rapid and useful innovation, and other areas dependent on the productivity of people rather than process.

Valuing Tacit Knowledge: Over 55 million workers in the United States will reach the traditional retirement age of 65 over the next 10-12 years, and the effects of the aging workforce are even more pronounced in other developed economies across Western Europe and Asia¹. There are enormous risks associated with knowledge loss as experienced employees walk out the door, taking with them tacit know-how, relationships, management acumen, and a body of information perhaps considered “obsolete” within the organization until it is no longer present. The US space agency NASA, for example, no longer has the capabilities to replicate critical parts of the manned space program from the 1960s because of knowledge loss through the attrition of experts.

Why should the CFO care? Management expert David DeLong points to five critical business risks associated with knowledge loss in his book *Lost*

¹ According to the U.S. Bureau of Labor Statistics.

“There are enormous risks associated with knowledge loss ...”

Knowledge: Confronting the Threat of an Aging Workforce (Oxford Press, 2004):

- Reduced capacity to innovate
- Diminished ability to pursue growth strategies
- Reduced efficiency, undermining low-cost strategies
- Loss of competitive advantage
- Increased vulnerability and diminished responsiveness ²

CFOs who want to be proactive and strategic in terms of value-creation need to get out in front of these issues today, before the brunt of the retirement wave hits in earnest in 2012 and beyond. Some organizations are belatedly trying to forestall knowledge loss by paying escalating salaries to senior employees to keep them in place, but this strategy is not sustainable in the long run. Social computing and collaborative content technologies such as blogs, wikis, RSS and subscription-based media services, can make knowledge easier to capture, disseminate and consume, but CFOs should ensure that their organizations accompany investments in these technologies with changes to culture, practices and compensation schemes that offer incentives for employees with perishable knowledge to spend their time documenting it for their colleagues.

Supporting Multiple Growth Strategies: According to a recent report on the changing role of the CFO conducted by the Economist Business Unit (sponsored by Microsoft):

CEOs increasingly look to the finance function for objective evaluation of strategic initiatives. Accordingly, finance departments are gradually shifting time and other resources away from transactional and controlling activities to strategic and decision-support activities, often relying for information on data developed through enterprise resource planning (ERP) projects. Despite CFOs' broader mandate, nearly one-third (31 percent) of our survey respondents cite identifying new areas of growth as a difficult task for finance departments, compared with 27 percent who say this task is easy. ³

Finance can help the business capitalize on opportunities by charting a clear path through the complexities of global business. It can support growth through acquisition, opportunistic partnerships, disaggregation of

“CEOs increasingly look to the finance function for objective evaluation of strategic initiatives.”

² DeLong, p. 31

³ “The Emerging Role of the Finance Function in Large Corporations,” Economist Business Unit, March 12, 2008.

non-core business functions, insourcing or outsourcing – depending on the appropriate strategy for the business under prevailing conditions.

Each of these strategies demands a different set of skills to execute properly. In one possible future, centralized, command-and-control management practices devolve to ad hoc groups of empowered users, and corporations become holding companies for consortia of specialized service providers. This will place a great premium on the ability of the company to manage a virtualized workforce while maintaining operational consistency and financial governance. Finance can help prepare the business for this type of environment by investing in both the technologies and the practices that enable virtual teamwork, telework, mobility, and secure exchange of data with external partners.

In another potential scenario, scale and vertical integration may be decisive. Organizations will need to quickly integrate acquisitions to execute effectively. This not only means combining data from diverse and potentially incompatible systems, but also taking quick inventory of the skills and capabilities of people from different teams, different disciplines and different cultures, so that they can be mobilized as part of the unified organization. Finance will need logical repositories that help federate financial information, and tools that can mine that information for people, expertise and insight.

EMPOWER SUCCESS BY EMPOWERING PEOPLE

One common theme that spans all the changes to the finance function is the shift from process-centricity to people-centricity. Whether finance is looking to provide strategic insight, enable innovation or minimize risk, CFOs recognize that competitive advantage comes from the ability of people to execute in their roles. The imperative moving forward is to ensure that the people at the front lines of change – whether in finance or in operations – have the tools at their disposal to recognize what is happening in the market, start conversations across the length and breadth of business (including partners) to develop a strategy, then align the people and information they need to act. These decisions need to happen at the business edge, rather than emanating from the top-down and constrained by the limitations of a rigid, centralized IT architecture.

Empowering people is not merely a matter of technology investment. It often requires changes to practices, process and the organizational culture. Finance, especially in organizations where Human Resources reports to the office of the CFO, can and must be a leader in driving that change.

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Co-Creating the Information Workplace: One of the most important, and perhaps underrated, relationships is the one that exists between employees and their workplace. Many organizations today focus on creating differentiating customer experiences, but the employee experience is often inconsistent across various departments, from direct management to HR, leaving the employee less than satisfied with the result. The CFO survey pointed out a key finding on one aspect of organizations' investments in collaboration: involvement in information technology decisions.

Those employees reporting that they have a significant stake in IT investments also reported higher individual and workgroup productivity, better insights, and better decisions than those who reported having little impact on their IT investments. If we look at the concept of virtual distance and the challenges of managing distributed teams, technology skills and support represent a single dimension. The co-creation of environments can stretch well beyond tools to include the other dimensions of virtual distance, as well.

In a recent study by Basex, an analyst firm based in New York, over 60 percent of respondents said they developed innovative ways of using the software they were given on the job and over 80 percent said they modified their software environment in some way. These findings point directly back to the significant differences in the CFO study, regarding people's success when they co-create their technology environment.

Building Knowledge and Competency: Demographic patterns over the next 15 years show not only an aging workforce, but one that will thin dramatically in the middle, with the number of workers aged 25-45 declining by 6 percent per year through the 2010s in the United States alone.⁴ The coming years will be characterized not only by a scramble to recruit talent, but also to retain and develop young workers into productive managers and effective leaders. Professional services organizations such as KPMG and Deloitte Touche Tohmatsu, which are explicitly dependent on knowledge and talent, have taken the lead in addressing this challenge by investing heavily in mentoring programs. These types of programs serve several important functions:

- Reduce ramp-up time for new hires
- Facilitate knowledge transfer and knowledge retention
- Build personal relationships leading to a durable connection to the corporate culture

⁴ U.S. Bureau of Labor Statistics

"...the employee experience is often inconsistent across various departments..."

- Identify and fast-track promising managers and leaders
- Aid in recruiting talented younger workers, who are looking for mentors for career development

Mentoring programs can be formal or informal, face-to-face, or, increasingly, mediated by collaboration technology. The current generation of younger workers is both familiar and accustomed to using social networks, instant communication, rich media, and mobile technology to build real relationships and share information. Many employers are now using Podcasts and digital media devices to provide orientation materials to new hires. Some organizations are also looking at reciprocal mentoring programs, where younger workers help train their older colleagues in the use of new technologies while absorbing tacit knowledge and business skills.⁵

SUPPORT INNOVATION

Larry Keeley, co-founder and president of [Doblin Inc.](#) says that only 4 percent of innovation investments pay off.⁶ Although the words “innovation” and “risk” often appear next to each other, a 4 percent success rate is pretty low for any kind of investment. Some of those investments may yield large returns, but with only 4 percent of projects returning positive results, the burden on those successes is excessively high.

In the new study by CFO Research Services⁷, 40 percent of respondents report aggressive innovation in product development, with one-third looking at innovations in marketing and sales. Marketing and sales reflects an awareness of changes in business models. But limiting innovation to products and services and the way they are sold may not prove to go far enough in a competitive landscape where innovation is also driven by partnerships, processes, and customer experiences. It is important that finance examine all of the opportunities available and create leadership that provides business functions with guidance on trade-offs, risks, and opportunities.

Innovation is a creative activity. Innovation requires an environment that empowers its employees to explore the edges of problem spaces, to look

“Innovation requires an environment that empowers its employees to explore the edges of problem spaces ...”

⁵ For a fuller discussion of these issues, see Salkowitz, R. *Generation Blend: Managing Across the Technology Age Gap*. John Wiley & Sons, 2008. Part of the Microsoft Executive Leadership series.

⁶ <http://www.nextd.org/02/02/01/index.html>

⁷ “The Evolution of the Finance Function: Teaming with Business Management to Adapt and Thrive.” CFO Research Services. March 2008.

for new patterns and to act on their insights in order to create new value. We can think about the information technology environment as a litmus test for empowerment. If individuals do not feel ownership over the tools that they use, if they cannot control the basic way in which they work — how then do they affect the way an organization will function, or what products or services it will deliver?

Reducing the Impact of Low-Value Activities: As new models emerge, finance must become much more nimble. The CFO study reports that over two-thirds of finance’s time is still spent on routine transactions. Even though core financial systems are finally reaching maturity after years of investment, 80 percent of respondents still said they were constrained by time, budget or manpower. These types of results indicate a transition – a shift from finance as a central function – to finance as an enabler. The mature backend financial systems may well be engineered for the typical work of an industrial age organization, but they fray at the edges as the needs of a networked, knowledge-based economy asserts its requirements on the organization. If change happens at the edge, it is the finance staff that feels the pressure of change. They end up suffering from lower productivity as they are forced to adapt to new requirements without all of the support they need, from either technology or management, to empower the business while protecting core assets.

Innovation also happens at the edge of change, where opportunities arise and risks need to be mitigated. Either may drive innovation, but if finance is spending the vast majority of its time managing routine transactions, how can it effectively support innovation, both in its own functions and in core areas of the business?

Finance as an Enabler of Collaborative Innovation: The answer lies in distributing the finance function, in becoming much more integral to the business, which means the finance role is no longer just about numbers, but also about collaboration.

Nearly 50 percent of CFO survey respondents reported that higher performance expectations and increasing complexity were driving the increase in support for line-of-business management. The sheer availability of data is one fact of course, but so is the increase of reach and complexity. As organizations grow more global, as they outsource more functions, potentially creating new partnerships with looser integration (as compared to vertical integration), the complexity of the organizations’ reporting relationships goes up. Operations are no longer only internal

“If change happens at the edge, it is the finance staff that feels the pressure of change”

affairs, but rather negotiated agreements among partners. Motivations must align with goals and objectives in order to execute well.

In the Economist Business Unit study, nearly 64 percent of respondents called “ready access to data” (which implies the availability of software tools to access the needed data) as the most important contributor to finance empowerment, with 54 percent also citing staff members who have the skills and training to work on their own. 58 percent of CFOs surveyed reported that the greatest barriers to employee empowerment in finance are insufficient staff or lack of specific skills and a centralized and hierarchical decision-making structure (39 percent).

Both the EBU study and the CFO report point to the central role of finance in creating a culture of collaboration and learning by removing the institutional barriers to the free flow of information around the business. Finance is taking the lead in simplifying top-down processes, creating direct reporting relationships between front-line business teams and finance to facilitate faster decision-making and more disciplined execution. Software provides the capabilities for this type of collaboration by bringing structure and automation to information management tasks such as document collaboration, team project management, shared calendaring, and Web content management, while making it easier for people to share information in ad hoc ways such as instant messaging, blogs, wikis, and communities of practice.

Finance in a Networked World: The ubiquity of networks, new software-as-service models, and the continuous improvements in price/performance of IT are reducing entry costs to potential competitors and creating new business models on an almost daily basis. Many experts predict that centralized, hierarchical modes of operation will give way to federated, bottom-up models that require effective coordination across loosely-knit partnerships.

Finance in a networked world may be reporting on activities for which the parent organization has only contractual oversight, but where they may still have full regulatory responsibility. For example, a business may use its brand and market strength in one market to distribute product manufactured by low-cost overseas partners – then find the cost savings a two-edged sword if quality or safety issues arise that end up damaging the brand. This type of situation requires that organizations collaborate effectively. The survey found that 39 percent of respondents did not see performance tied to collaboration as applicable, and 49 percent said mentoring relationships between finance and line of business were also

“Both the EBU study and the CFO report point to the central role of finance in creating a culture of collaboration...”

not applicable. In addition, the interviews revealed that older solutions, such as co-locating teams, are still considered a viable solution despite the highly distributed nature of today's work.

This finding indicated a fundamental misunderstanding of how collaboration works. This does not imply that finance fails to see collaboration as important, but that finance, like most functions in an organization, doesn't understand the dimensions of collaboration, and the investment that must be made to effectively work with people in a distributed organization.

Minimizing Virtual Distance: A new concept called Virtual Distance has arisen that helps describe the dimensions of collaboration so that distributed teams can recognize their relationship needs more explicitly. The concept challenges the assumption of co-location of teams, as distance is only one factor in creating an effective collaboration environment.

Virtual Distance International (VDI) and The Institute for Innovation and Information Productivity, of which Microsoft is founding member, co-funded a whitepaper exploring VDI's concept of virtual distance. The report outlined 11 factors that influence an organization's effectiveness when working together. These factors include:

- Geographic Distance
- Temporal Distance
- Organizational Distance
- Team Size
- Face-to-Face
- Multitasking
- Technical Skills and Support
- Cultural Distance
- Interdependence Distance
- Relationships Distance
- Social Distance

It is clear from this list, that simply placing people in the same location may help manage geographic, temporal and face-to-face issues, but it does little to change things like cultural distance or organizational distance. Finance, for instance, located in R&D, may be so conceptually removed from the way engineers view cost and risk, that financial analysts may not be able to relate their discipline in a meaningful way to the efforts they are being asked to help manage. Even being co-located does not reduce those distances unless the individuals make an exemplary effort to

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negotiate a consensus view for the distances that challenge their mutual responsibilities. In order to be highly effective, and highly collaborative, they need to align all their other “distances.” (Further information can be found in Lojeski and Reilly, *Making Virtual Distance Work in the Digital Age*, available at <http://www.iii-p.org/>).

Organizations that want to effectively evolve the finance organization into a more collaborative function need to take a leadership role in understanding the underlying social models that constrain the success of collaboration. As stated earlier, as even the smallest organizations feel the pull of globalization, they will face more collaboration demands that cross distance and organizational boundaries. These are not just single dimensions that need to be managed; rather, they are complex, multi-dimensional shifts that require a new way of seeing workplace relationships.

REDUCE RISK

“Reduce Risk” falls into the traditional portfolio of the CFO, but even if the role is traditional, the nature of the risks have evolved considerably, and requires a far more aggressive response. In a world of increasing complexity and interdependence, individual firms may find themselves exposed to uncertainties far beyond their traditional market and industry, and to new categories of risk that hamper their ability to operate effectively. These include:

- Risk to physical property and inventory
- Risk to intellectual property and data
- Risk to reputation and brand
- Legal liability and compliance
- Opacity

New technologies and work practices can help mitigate some of that risk by giving CFOs more visibility into the physical, information and human assets of the business.

Protecting Physical Assets: Even in a knowledge economy, value still inheres in places and things. CFOs operating in industries that depend on global supply networks need visibility into logistics and easy ways to track physical assets. Metadata – information that tracks the location, history and status of information in a database – is already protruding into the physical world in the form of tiny, low-cost Radio Frequency Identification (RFID) tags that help track inventory and monitor locations. Retailers are using RFID to reduce shrinkage and track inventory through global supply

“New technologies and work practices can help mitigate some of that risk by giving CFOs more visibility into the business.”

webs, and businesses of all kinds are looking at RFID and successor technologies such as smart dust and smart spaces⁸ to reduce risk to physical property and inventory.

Even today, services such as Microsoft Virtual Earth satellite imagery and GPRS data are being used to track certain assets, on both individual desktops and mobile devices. This information and imagery can be overlaid with other types of enterprise data to help assess the value of property, taxes, utility costs and other factors that could help businesses with exposure to the real estate market gain a better understanding of the valuation of their assets. Concrete information can dispel uncertainty, providing finance with a better picture of the world – sometimes literally!

Reducing Data Risk: Metadata is also being more deeply embedded into digital content, both to make it easier to find via semantic search and also to provide information rights management capabilities to prevent the unauthorized dissemination and duplication of intellectual property. As metadata becomes more pervasive and sophisticated, organizations will be able to promulgate and manage security policies that protect documents, images, data, and individual elements within digital files beyond the firewall. This can help reduce data risk resulting from deliberate illicit activities, lax policies or individual carelessness.

Increasing Accountability and Auditability: The compliance requirements due to regulations such as SOX and Basel II have placed increasing demands on the CFO, and the emphasis on compliance has diverted resources and attention that could have been going to other value-creating activities. Many of new areas of regulation center on authenticating and validating enterprise data – including, but not limited to, financial data – and ensuring transparency and accountability with respect to the practices surrounding the use of that information. Organizations have made large investments in purpose-built systems to assist in managing compliance challenges, but looking ahead, other solutions may prove more flexible and more cost-effective in the face of unpredictable changes in the regulatory climate, while providing better overall visibility for the business as a whole.

Rather than taking a process-centric view of compliance, a more useful approach pushes the tools for tracking and authenticating data into the data itself. Metadata that tracks the history and chain of custody of data can help to authenticate data for reporting, audit and compliance

⁸ Technologies that use environmental sensors to monitor and report on conditions in their proximity, such as motion, temperature, lighting intensity, and so on.

“...a more useful approach pushes the tools for tracking and authenticating data into the data itself.”

purposes. The auditor can consult the metadata to ensure that information comes from the correct sources and was not tampered with in the course of business activities. Documents and data produced in conjunction with liability claims can be validated in the same way and traced authoritatively to its source, helping to protect the institution against misconduct by individuals in its employ.

Protecting Reputation: In a connected, transparent world, the reputation of an organization – as a trading partner, an employer, a corporate citizen and a brand – can be an enormous contributor to its perceived and actual value. Reputation risk can arise from inability to execute according to expectations, from controversial policies, or from a single unfortunate incident captured on video and propagated across public networks. No technology or practice can entirely shield a company from this sort of risk, but better tools are emerging to allow organizations to track, manage and shape their reputations across multiple forums, by engaging directly with customers through informal channels such as blogs and discussion groups, responding quickly to incidents that could spiral into reputation threats, and by building up social capital as a hedge against future risk. One effective strategy is to become proactively transparent – with pricing (as with the online insurance company Progressive⁹), with willingness to discuss policies with customers and employees, and with innovation, so as to help partners anticipate future needs.

Reducing Data Uncertainty – “One Version of the Truth”: CFOs demand a single version of the truth – that is, clear and uncontradictory data on which to base financial decisions. Improvements in IT and systems integration have brought more and more data from the business into view. Though it is helpful to have the maximum amount of information available to support decisions, a proliferation of raw data, without reference to source, credibility or context, tends to cloud the decision-making process with doubt and increase risk.

Acquisitions and divestitures can be a driver of complexity, as the combined (or divested) business comes into possession of a huge store of legacy data of uncertain origin. Also, the spread of low-cost digital cameras, imaging technology, online videos, and other rich media content is flooding corporate databases with new types of unstructured data, creating new requirements for storage and taxonomy, which may not

⁹ Progressive Insurance is among the leaders in providing customers with competitive quotes on its Web site, even when competitors offer lower prices. They are banking that their reputation for transparency and fair-dealing gives their brand greater value in the long-term than losing the occasional transaction based on price alone.

“CFOs demand clear and uncontradictory data on which to base financial decisions.”

accord with the business rules of a structured database. The ease of manipulation of digital data also raises questions of authentication and validity. How can the CFO determine whether to trust this sort of data, either in terms of business value or for compliance purposes? Moving forward, the office of the CFO will need to work in close collaboration with the CIO to support a new practice of “data archeology,” where teams of specialists sift through old records and new data types to provide context and authentication. Certain technologies such as collaborative filtering and pattern recognition can be helpful in identifying the relevance and content of data, but ultimately, the task of validation requires expertise and team collaboration.

MICROSOFT’S COMMITMENT

Microsoft is committed to supporting the CFO and the finance discipline in their evolving roles through our continuous investments in developing software to empower people and also by learning from the experience and feedback of our customers around the world. We engage with CFOs across all industries and geographies on an ongoing basis to stay abreast of their needs and challenges. Microsoft provides regular updates and dialogues at our Executive Briefing Center, participates in third-party conferences, and regularly visits with our customers’ finance teams. We also publish white papers and sponsor research, such as the findings cited here from CFO Research Services and the Economist Intelligence Unit, to give CFOs more and better information about changes in the market and the responses of their colleagues across different industries.

In addition, Microsoft is leading an ongoing cross-industry initiative to provide quantitative metrics around information work activities and innovation through the Institute for Innovation and Information Work Productivity (www.iii-p.org). The goal is to give business decision-makers such as the CFO better ways to measure the performance of activities that are driving the real value in the knowledge economy and move the discussion of productivity beyond the industrial age framework of inputs and outputs.

Microsoft leads the technology industry with an unmatched investment in information-work technology – R&D, testing and roadmap – and 30-year legacy of leadership in empowering people with information worker tools and software. Our partnerships with a global ecosystem of independent businesses and developers to create customized solutions based on flexible, well-supported, scalable technology and familiar software-based productivity applications provide customers with cost-effective choices and better ways to tailor solutions to meet their specific needs.

“Microsoft is committed to supporting the CFO and the finance discipline in their evolving roles ...”

A FINANCE CALL TO ACTION

It was clear from the CFO survey that the old ways of working are no longer seen by those in finance as being viable for the future. It was also clear that the transition from industrial age views of the world to those of a networked, knowledge-based economy, have not completely taken hold.

The success of finance in the future will be its ability not to foster new business models for the organization as a whole, but to adopt new business models internally within the finance function. Innovation starts at home. As Finance evolves to more integrated models, as it finds ways of empowering organizations with the wealth of information available, as it finds new ways to guide and mentor, coach and lead, it will become highly influential in its broad range of remits: from controlling costs to driving innovation.

At the core is empowerment of people to adapt to the changes they see internally, and externally. To view staff and contractors as a human network capable of sensing change and feeding back its observations and its advice to the organization. When that happens, when finance recognizes the near organic nature of change and turns its sensory network into rapidly assimilate organizational knowledge, finance will have moved through this transition and, in the ideal world, will be using its newfound skills to sense the next change on the horizon.

“The success of finance in the future will be its ability to adopt new business models internally within the finance function.”

APPENDIX: MANAGING THE CFO ROLE IN AN UNCERTAIN FUTURE

The future described above is a view that was tested and enhanced by working through a range of possible futures driven by Microsoft's Future of Work scenarios. However, it is not the only possible world in which CFOs may need to operate. This appendix is included to illustrate a divergent range of possible futures, each of which raises challenging questions that CFOs and their organizations should consider in their own planning.

Four Versions of the Future

Microsoft's approach to forecasting is modeled on the scenario planning methodology that has been successfully embraced by leading businesses and governments around the world. Rather than make definitive predictions based on unknown conditions, we make our uncertainties explicit and ask "What if...?" across a range of divergent possibilities. The goal is to arrive at a strategy that covers the widest range of contingencies, so that Microsoft and its customers are prepared for the future, regardless of unexpected changes in the prevailing business and social climate.

The Microsoft scenario planning processes identified two critical uncertainties: the possible states for globalization and the organizing principle of the world as the framework for our scenarios. No one can say for sure whether the pressures of globalization will lead to greater integration or if events will trigger a retreat behind regional borders and increase barriers to the free flow of information and commerce. We also don't know whether the spread of networks and connectivity will enable massive decentralization and bottom-up empowerment, or lead to more rapid consolidation by empowering hierarchically-organized transnational corporations or resurgent "big government" models. Overlaying these two axes of uncertainty yields a grid with four quadrants (see figure 1), each representing a scenario of a different possible future.

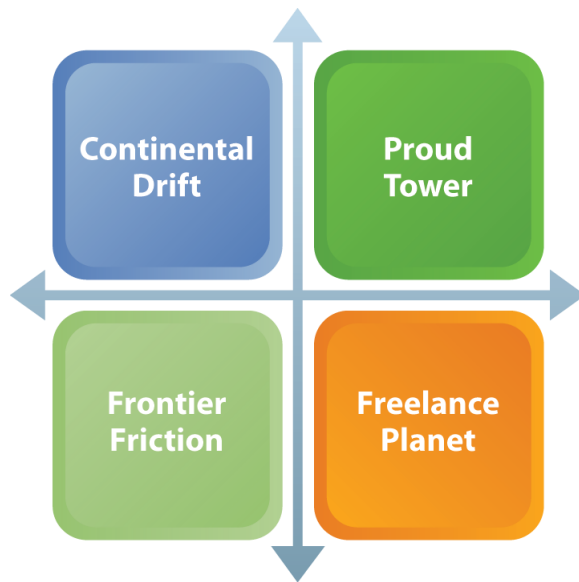


Figure 3: Microsoft's Scenario Matrix for the Future of Work

Each of these scenarios encapsulates its own logic. The following overviews provide a glimpse into the complex stories that represent those possible futures.

Proud Tower

Proud Tower describes a future where large, centralized corporations have taken over many of the functions of governments. Globalization creates a fertile climate for transnational commerce, with economic opportunities leading to rapid development in emerging nations. Laws and regulations favor large businesses and protect intellectual property. Because a few large companies dominate the market, it is difficult for small competitors to gain a foothold. Consequently, companies compete at the margins for market growth and revenue opportunities within their existing customer base, while innovation takes a back seat. They are comfortable, however, as many products in the market are long lasting and act as annuity revenue. The downside of comfort is a lack of innovation. Workers make their careers by climbing the corporate ladder, building relationships within their organization, and blending their personal lives with the culture and priorities of their employers.

Some additional characteristics of this scenario include:

- Increasingly fluid borders, and global corporations are the primary organizing principle of commerce at every level
- Security and intelligence needs tend to outweigh issues of privacy, and U.S. military and global corporations form increasingly close relationships
- Corporations pay more attention to issues of governance, accountability and sustainability, recovering some civic trust. But new global and social tensions are rising as the century's second decade gets under way
- Highly proprietary, structured, corporate monitored information systems and networks
- Intellectual property controlled by corporations, some of which may deploy proprietary algorithms
- Workers are (must be) loyal to corporations
- Emphasis on intra-organizational collaboration and communication
- Searching and filtering of internal information is equally (or more) important than looking for external information
- Concerns about information leaking out
- Operational knowledge is key: internal networking and politics are more important than external relationships
- Organizationally-oriented reputation systems that help people figure out the best people inside the organization to work with to achieve their goals.

Continental Drift

Continental Drift envisions a retreat from globalization back to a competition between nation-states or regional blocks. Political problems have complicated relationships between the United States, Europe, China, and the Middle East, restricting access to manufacturing capabilities, raw materials, overseas markets, and immigrant labor. National governments become much more assertive in creating industrial and labor policies. Large businesses thrive on government contracts and subsidies, while competing among themselves for share of domestic markets. Increased political friction revives Cold War-like security measures that make it difficult to do business across borders. Workforce development and education are huge government priorities, and workers in most developed economies have strong leverage in negotiating pay, benefits and working conditions because of labor shortages caused by demographics.

Some additional characteristics of this scenario include:

- Increasing global problems—terror, economic turmoil, and environmental degradation—lead to the return of big government across the world
- Though the U.S. remains militarily powerful, a series of strategic missteps significantly weakens its economic and cultural influence
- Major governments in Europe and Asia raise taxes to pay for large infrastructure projects intended to kick-start a stagnant and more regionalized world economy
- Regional innovations do not spread globally
- High regional compliance overhead
- Differences rule: new local competitors emerge in various regions
- Playing by local rules as important as (or more important than) efficiency
- Being culturally competent and multi-lingual are valued skills
- Emphasis on inter-organizational collaboration and communication
- Concern over information boundaries
- Information translation and format transcription both key
- Regionally-oriented reputation systems – barriers exclude finding expertise or managing relationships between approved boundaries

Frontier Friction

Frontier Friction emerges following a severe shock to the global economic system: perhaps a data meltdown in the financial sector following a cyber-attack or environmental catastrophe of worldwide scale. As a result,

Scenario Implications for CFOs

Continental Drift: In a scenario of strong national governments, compliance will be the top CFO priority. Transparency in administering government contracts will also be critical, since public sector expenditures and subsidies will provide relatively stronger revenue opportunities than hard-to-reach foreign markets. CFOs must also account for the higher costs of doing business internationally, against the benefits of outsourcing.

Proud Tower: Coordination and roll-up across global units will be a core CFO function in this scenario. Finance will drive consistency and apply economies of scale to processes and practices across the global enterprise. CFOs should be prepared to support high levels of M&A activities, which will drive growth into new markets.

confidence in the old order collapses and authority devolves to regional governments, communities, religious sects, and traditional clan and tribal affiliations. This is a problematic scenario for business. Companies must create and enforce their own security policies and operate in an environment of low trust among employees, customers and partners. With economic and educational infrastructure in disrepair, the quality of the knowledge workforce continues to degrade, requiring simpler tools and practical skills. Supply chains are fragmentary if they exist at all, and much of the economy becomes localized, with networks of communities interrelating at the near-local level.

Some additional characteristics of this scenario include:

- Power and influence seep away from hierarchical institutions and corporations, as the old rules stop working
- Facing a dynamic and dangerous world, people crave a sense of belonging and focus on communities and relationships; this gives rise to fundamentalism as well as new “swarm” models of communities that assemble/congregate.
- Importance of personal authorship and individual security
- Concern over identification and verification
- Individuals see a need for multiple aliases as they navigate across tribal boundaries
- Maintenance of older products becomes equally as lucrative as shipping new products
- The ability to move between networks, and make new partnerships, is crucial
- Translation skills—at every level and in every way—at a premium
- More missed information because of more misinformation
- Community-oriented reputation systems that key off of *very* trusted sources

Freelance Planet

Freelance Planet is a world transformed by bottom-up networks and mass-collaboration on a global scale. The flexibility and speed of networked systems renders centralized command-and-control hierarchies obsolete at all levels. Large corporations become holding companies and managers of relationships between independent contractors and small providers. Governments outsource and devolve their functions to entrepreneurial non-profits and non-government organizations. People seamlessly blend their lives and work, managing multiple identities, networks, and overlapping relationships using technology that pervades every device and environment. Rapid innovation and creative thinking are competitive

Scenario Implications for CFOs cont'

Frontier Friction: The difficult circumstances of this scenario will push the CFO into a more defensive posture, with risk management and asset preservation as the key priorities. Finance will need to actively assess new sources of risk and identify regional power-holders in an environment of extremely poor visibility and (at best) intermittent opportunities for growth.

Freelance Planet: This high-opportunity environment is in many ways the most complex and challenging for finance. CFOs will need to manage across partnerships as well as internal organizations, providing a common frame of reference for shifting sets of players in opportunistic alliances. Tools for measuring performance and productivity will evolve quickly, and CFOs will need to make quick judgments on the risks, value, and sustainability of new operating models.

advantages. People and businesses invest continuously in learning, and new hotspots of creative thinking flare up unpredictably all around the world.

Some additional characteristics of this scenario include:

- Network, speed, and creativity rule. Traditional hierarchies become increasingly ineffectual, as emergent systems succeed in surprising new ways, including distributed intelligence networks which greatly enhance security
- Voices of the previously disenfranchised enjoy growing influence; even so, a rapidly changing technological society is challenging to many institutions and people.
- More expertise available online
- Emphasis on relationship management in all aspects of life, and across “outsourced” borders: massive contact lists
- Blurring between enterprise and extra-enterprise networks
- Strength and success in open source
- Viruses most rampant
- Security—and rights management— move to document level
- Personal prioritization and attention management
- Personally-oriented (“retail”) reputation systems

In light of these possible futures, the CFO will face different expectations in different futures. The following matrix outlines how some expectations will change depending on how the future, or parts of the future, unfold.

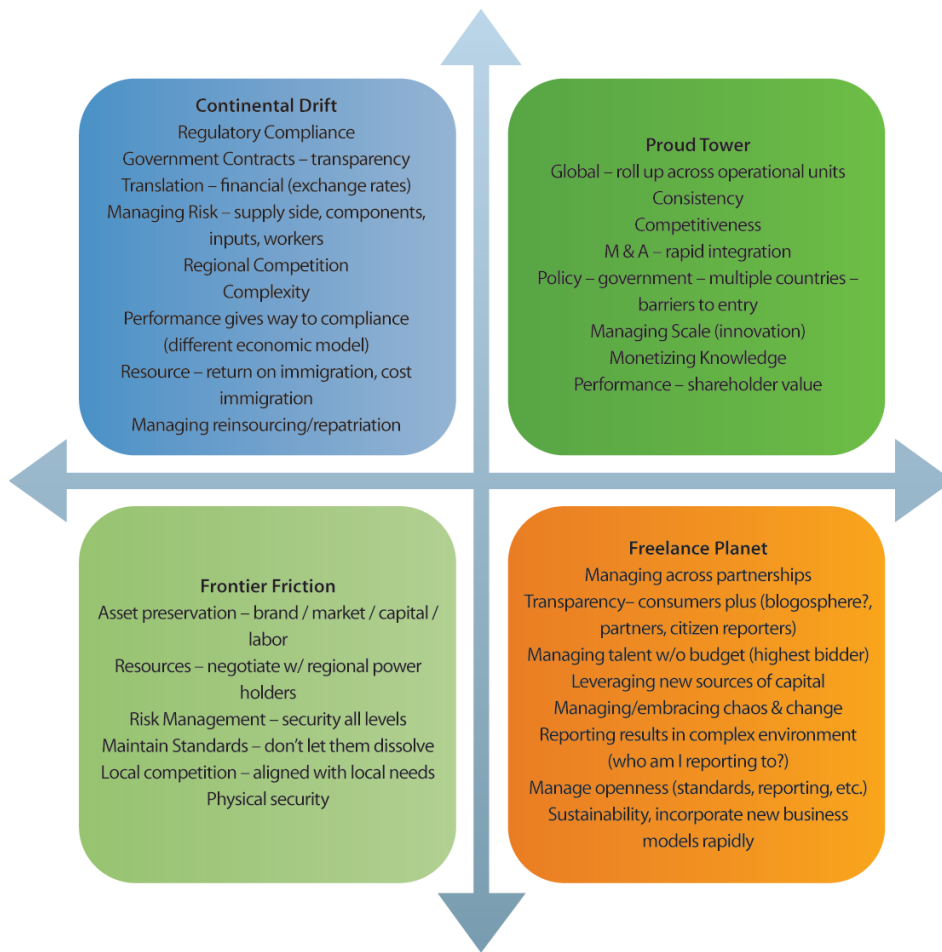


Figure 4: Scenarios and the Impact on CFO Expectations

It is important, as we look to the future, that we sense those factors that represent our uncertainties. The Microsoft Future of Work scenarios represent one means, and one perspective. We encourage financial leaders to be cognizant of uncertainties that affect their futures and understand the need to navigate those futures effectively. As an organization, Microsoft is ready to partner with our customers to understand the uncertainties facing their businesses and to provide software solutions that help make organizations more adaptive and resilient in the face of change.