Digital transformation in finance functions:
ASEAN and UK perspectives
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Executive summary

Technology provides finance functions with many opportunities to do things better, but it also changes the business context in which finance operates. This report shares the practical experience of professional accountants in business and other experts who are leading or involved in digital transformation of finance functions in companies across the Association of Southeast Asian Nations (ASEAN) region and in the United Kingdom (UK). It highlights three key themes that underpin successful transformation.

THERE IS A PRESSING NEED TO MOVE TO BUSINESS PARTNERING

The vision for successful digital transformation encapsulates a major shift in focus for professional accountants – spending less time doing accounting and finance processes and more time working closely with business functions to provide financial insight. Our research showed that where finance functions were already well established in a business partnering role, digital transformation had provided them with good opportunities to extract more insight from data and to increase their value to the business.

In other cases, though, finance functions were still primarily focused on transactional work and therefore a much bigger reinvention of the function was needed as part of digital transformation. Our research highlighted a variety of challenges in moving to a business partner role, including having the capabilities to deliver higher-value work and creating the demand from other business functions for more insight from finance. However, many interviewees emphasised the urgency of finance making this transition to retain relevance and avoid lagging behind other business functions, given the rapid pace of technological change.

PEOPLE ARE THE KEY TO TRANSFORMATION

The automation of finance processes and shift to business partnering significantly changes jobs in finance functions. This requires regular and substantial reskilling, a trend that is likely to accelerate in the future. Companies in our research reported demands for new skills in data and analytics in particular, as well as wider business and commercial knowledge, although some of them were struggling to recruit professional accountants with this broader skillset.

Furthermore, transformation requires a significant change in behaviour and culture, which emphasises learning, change and experimentation, and is quite different from more traditional ways of thinking in finance. Our research highlighted the importance of strong leadership to communicate a vision and inspire finance functions to be open to this change, as well as empowering professional accountants at all levels to play their own part in the transformation.

SMALL STEPS MATTER

Digital transformation is a long process and does not happen overnight – it demands a major change of mindset at almost all levels. Further, making the most of digital capabilities in finance functions requires a renewed focus on process standardisation and data governance in particular.

As a result, successful transformations often take an iterative approach, which emphasises small and continuous improvements over ‘big bang’ style change. This approach provides greater agility to respond to changes in technology and encourages constant learning about successes and failures in practice. It also enables finance functions to get started quickly with changes that will help them deliver more insight to businesses and demonstrate their increased value.
ICAEW AND ISCA PARTNERSHIP

ICAEW and ISCA are delighted to collaborate for the fourth year running to research topics at the leading edge of changes to our profession. This report captures the real-world experience and practical insights of those starting or already on their digital transformation journey in Singapore, Malaysia, Vietnam, Indonesia, Cambodia and the UK. The findings will enable ICAEW and ISCA to support businesses in understanding the impact of digital transformation and help them prepare for change. Since establishing the ICAEW regional head office in Singapore in 2009 we have increased our support for professional bodies in the ASEAN region, which also aligns with ICAEW’s vision of a world of strong economies.
**Introduction**

**DIGITAL TRANSFORMATION IN FINANCE FUNCTIONS**

The impact of digital technologies is an important topic for professional accountants working in businesses around the world. Technology provides finance functions with many opportunities to do things better, but it also changes the business context in which finance operates.

The overall direction of the digital transformation of finance is clear and well documented – improving the efficiency and accuracy of standard accounting processes through digitalisation and automation, and spending more time supporting businesses with better information and insights. These improvements are made possible by many areas of new technology, including cloud, robotic process automation (RPA), data analytics, and artificial intelligence (AI), and they build on previous generations of technology, such as Enterprise Resource Planning (ERP) systems.

However, when we look at the practical experience of digital transformation in finance functions, we actually find huge variety. There are some common lessons and challenges, but every finance function has its own individual story, shaped by the specific needs of the business, the organisational culture and leadership, as well as the function’s history and stage of development. While good practices and frameworks have an important role in supporting change in finance functions, sharing real-world experience and recognising different perspectives can also be helpful and can enable us to identify common pitfalls.

This report shares the practical experience of professional accountants in businesses and other experts who are leading or supporting digital transformation across the ASEAN region and UK. It aims to share some practical insights for those starting or already on their digital transformation journey, as well as some reflections on the challenges and opportunities for the profession as a result of technological changes.

**OUR APPROACH**

The Institute of Chartered Accountants in England and Wales (ICAEW) and the Institute of Singapore Chartered Accountants (ISCA) worked together to explore the impact of digital technology on finance functions through a series of individual interviews with chief executive officers (CEOs), chief financial officers (CFOs) and people who are closely involved with digital transformation initiatives in finance from Singapore, Malaysia, Vietnam, Indonesia, Cambodia and the UK.

Focusing on countries in the ASEAN region presents an interesting context in which to explore finance transformation. It is an area of fast-growing economies where digitalisation is a vital part of economic development. In many ASEAN countries, the populations are young and digital technology presents many opportunities to transform the economies and ways of life.

At the same time, the region is also diverse, with substantial differences in population size, gross domestic product (GDP) per capita and economic development. Therefore, perspectives from across the region, as well as those from the UK, can provide a rich picture of the opportunities and challenges facing finance functions today.

Interviewees brought a wide range of experience from different countries, industries, company sizes and stages of their career, which highlighted some common themes, as well as diverse points of view. Some finance functions were well advanced in their digital transformation journeys and were achieving many of the potential benefits outlined. Others were at very early stages of thinking about transformation and several were somewhere in between, grappling with the practical difficulties of change.
The interviews were structured in a consistent way and this report reflects these conversations. The first two sections focus on the big picture and how the digital transformation of finance functions can deliver benefits to businesses.

- **Section 1** focuses on the changing business context, specifically the experience of digitalisation in different countries.
- **Section 2** looks at the aims and objectives of digital transformation in finance, and how these vary across businesses.

The next three sections focus on practical delivery:

- **Section 3** highlights the technology being used and some of the practical challenges in maximising its use and value.
- **Section 4** focuses on skills and the extent to which professional accountants need to develop new skills to work with new technologies.
- **Section 5** considers culture - what behaviours are needed to thrive in a digital environment, and how to encourage and support change.

The report concludes with some high-level reflections for finance functions and their leaders, professional accountants working in commercial sectors, professional accountancy bodies and educators. To some extent, the research provides specific evidence about things that the profession has been considering for a while, such as the profound implications digital transformation can have for people. However, the research also emphasises the urgency of change. While the shift to business partnering is not a new suggestion, it is no longer something that is just good practice or optional – finance functions must find ways to add more value if they are to retain their relevance and influence in businesses.

**FEEDBACK AND ENGAGEMENT**

ICAEW and ISCA are interested in learning about the specific challenges faced by different organisations, their priorities in transforming the finance function and their practical experience of delivering change. Questions to be addressed include the following.

- How do finance leaders manage expectations about the pace of change, both within finance functions and with key stakeholders?
- How do transformation projects prioritise the wide variety of opportunities to use new technologies?
- How does finance demonstrate greater value to business functions and create demand for more business partnering activities?
- What mechanisms do finance functions use to capture learning from digitalisation and improvement initiatives?

To join in our ongoing discussions and to share your experience of finance transformation in future research projects, contact [kirstin.gillon@icaew.com](mailto:kirstin.gillon@icaew.com) and [perrine.oh@isca.org.sg](mailto:perrine.oh@isca.org.sg).
1. The changing business context

RESEARCH FINDINGS
• The varying levels of digitalisation across the ASEAN region and UK create different business conditions in which professional accountants and finance functions work.
• Professional accountants are often at the front line of government initiatives to encourage the use of digital technology by businesses, for example through digitalisation of tax programmes.
• Education about the functionality and value of technology is vital to support its adoption and effective use.

DIFFERENT LEVELS OF DIGITALISATION ACROSS MARKETS
The potential benefits of greater digitalisation of businesses and economies are well-researched, and governments around the world are keen to encourage these trends.1 Benefits include:
• better customer service and value;
• more efficient operations and higher productivity;
• new business models, products and services; and
• higher GDP growth.

BACKGROUND: DIGITAL DEVELOPMENT IN ASEAN
ASEAN comprises 10 countries in Southeast Asia: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.

For the ASEAN region, digitalisation is an important enabler for economic growth - according to the World Economic Forum, ASEAN is the fastest growing internet market in the world. The region has a range of plans and frameworks to drive and support greater adoption of digital technology and improve co-ordination between ASEAN countries. This includes a plan for connectivity, support for investment in infrastructure, actions to increase trust in technology through good security and privacy, a digital skills programme and a digital integration framework which aims to improve cross-border e-commerce and innovation.2

Many of our interviews were grounded in the context of the UK and Singapore, which both display high levels of digitalisation that have been built up over many years. In these economies, digitalisation tends to lead to greater levels of competition and a faster pace of change. This was reflected in our interviews, with increased competition and industry restructuring commonly cited as drivers of change in finance. There were greater pressures on costs, often as a result of having to compete against new entrants that were using digital technology to operate with much lower cost bases and fewer assets. For companies in Singapore, a shortage of staff and moving people up the value chain were also important drivers of change.
In contrast, some of our interviews took place with companies in emerging markets such as Vietnam and Cambodia, where the infrastructure is less developed but there is a very fast pace of change towards digitalisation. The young populations, and their particular enthusiasm for mobile and social media, were seen by interviewees as major drivers of change. However, many businesses and finance functions felt there was still a long way to go in adopting new technologies and operating in a more digital way.

Infrastructure issues, such as the lack of broadband connectivity, mobile phone masts and reliable power supplies, were highlighted as a key barrier. This was particularly the case in rural areas where the cost of implementing good infrastructure across large areas of land with small populations was hard to justify. However, this challenge is common to many countries; the UK, for example, still has significant geographical areas with poor connectivity, which hinders adoption of cloud accounting software in particular.

**BACKGROUND: DIGITAL ADOPTION IN THE UK AND ASEAN**

The countries that we are considering in this report have achieved very different levels of digital adoption, as shown by DataReportal’s Digital 2019 report, which aggregated data from a number of third-party sources (figures shown are data as at January 2019).

<table>
<thead>
<tr>
<th>Country</th>
<th>Population (million)</th>
<th>Mobile subscriptions (% of population)*</th>
<th>Internet users (% of population)</th>
<th>Social media users (% of population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>66.8</td>
<td>107</td>
<td>95</td>
<td>67</td>
</tr>
<tr>
<td>Singapore</td>
<td>5.8</td>
<td>144</td>
<td>84</td>
<td>79</td>
</tr>
<tr>
<td>Malaysia</td>
<td>32.2</td>
<td>125</td>
<td>80</td>
<td>78</td>
</tr>
<tr>
<td>Cambodia</td>
<td>16.3</td>
<td>153</td>
<td>76</td>
<td>51</td>
</tr>
<tr>
<td>Vietnam</td>
<td>96.9</td>
<td>148</td>
<td>66</td>
<td>60</td>
</tr>
<tr>
<td>Indonesia</td>
<td>268.2</td>
<td>133</td>
<td>56</td>
<td>56</td>
</tr>
<tr>
<td>Myanmar</td>
<td>54.1</td>
<td>105</td>
<td>39</td>
<td>39</td>
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* Note that this reflects individuals holding multiple accounts (e.g., separate phones for work and personal use, or using different SIM cards to reduce costs.)

**DRIVERS OF DIGITALISATION**

There are a number of drivers of business digitalisation. Several interviewees highlighted the importance of customer demands. Customers typically want convenient and reliable services that can often be delivered better through digital channels. This could be seen for example in the popularity of online and mobile banking services, available 24/7, over physical branch services.

Governments can also play an influential role, encouraging, or sometimes mandating, businesses to become more digital in their finance processes through online filing initiatives for tax or other statutory returns. Such initiatives tend to put professional accountants on the frontline of change.
The digitalisation of tax in particular is a major catalyst for change, especially in smaller businesses, which may suddenly find that they need to submit returns through software or over the internet, rather than using physical forms. Tax authorities want more efficient processes as well as better data from companies, and digitalisation is a key enabler of this around the world, from the UK’s Making Tax Digital programme to initiatives in Cambodia and Indonesia.3

That said, finance functions also felt the negative impact of some areas of government regulation, which could slow down digitalisation efforts. Our interviews in Cambodia, for example, highlighted regulations that required invoices to be produced in the local language. While there may be good intentions behind this, it created significant practical difficulties where international accounting software was being used to track debtors. As the software did not support the local language, invoices had to be done twice, once in the software and once as a separate manually-created document which met the regulation.

Another important driver of digitalisation is financial services, specifically the growing role of fintech in all of the countries included in the research. This again puts finance functions and professional accountants at the heart of digital change - in dealing with ongoing trends in the form of new payments systems, different ways of raising finance and the growth of crypto-currencies.4

**EDUCATING PEOPLE ABOUT TECHNOLOGY**

Building the technology infrastructure is clearly very important. However, there was strong consensus in our conversations that getting widespread adoption of digital solutions involves a large culture shift and needs significant education of consumers and businesses.

Our interviewees in Cambodia and Vietnam in particular emphasised the very strong cash-based cultures in their countries. Building the right mechanisms to develop trust in the technology would take significant time. Likewise, education was felt to be critical to help people understand what the technology was, what it could do and how to use it.

For example, the growth in fintech is generally spearheaded by new payment systems and digital wallets. Everyone is familiar with the concept of paying for things and can immediately engage with new ways of doing it. However, when looking at other fintech services – for example, digital bank accounts or peer-to-peer lending – consumers may be much less familiar with the concepts behind these services and their benefits, making it much harder to get traction for them. A key part of supporting widespread adoption was more education on the value of these new services.

This point also applied more directly to finance functions. There were a number of comments about how professional accountants needed to understand the functionality and benefits of accounting software, as well as how to use it. Education is therefore critical to encourage adoption of new technologies, and many stakeholders, including governments, trade and industry associations, professional bodies, and regulators can help in this area.

**PRIORITIES FOR FINANCE FUNCTION LEADERS**

- Support efforts to educate and share knowledge around the changing business environment and the benefits of new systems for finance and accounting.
- Work constructively with governments and relevant agencies on initiatives such as digitalisation of tax, which can spearhead wider business digitalisation, and adoption of digital solutions.
- Engage with the fintech sector and understand how it can help finance functions innovate.
2. Aims and the value proposition

RESEARCH FINDINGS

• Digital transformation means different things in different companies, although the core benefits of improved efficiency and better support to the business are common.

• Transformation is complex and takes a long time. It benefits from approaches based on iterative change and continuous improvements.

• Digitalisation and automation result in greater emphasis on business partnering, but some companies are further advanced in delivering this than others.

BENEFITS OF DIGITAL TRANSFORMATION

‘Digital transformation has been going on for a long time but it’s always about improving efficiency and adding more value.’

The vision for successful digital transformation encapsulates a major shift in focus for professional accountants – spending less time performing accounting and finance processes and more time working closely with business functions to provide financial insight. Although these high-level aims were universally recognised in our research, the specific focus and benefits of digital transformation activities in finance varied significantly.

For example, a number of interviewees focused on the transactional and back office side of finance. Here, finance functions were focusing on completing finance processes as far as possible without human intervention and by using automation technology instead. The expected benefits of automation included greater accuracy, higher speed of processing and more scalability of tasks.

EXAMPLES FROM THE RESEARCH: AUTOMATION

One company, which operates restaurants in an airport and has to deal with seeking meal voucher claims from airline companies during flight delays, implemented a scanning system that enabled frontline staff to automatically collect details from customers’ boarding passes instead of having to manually record them. This effectively streamlined a number of finance and operational processes, while reducing the risk of human error. The benefits reported included having standardised data, timely and accurate invoicing and a reduced time spent in doing repetitive and unproductive tasks, such as making multiple copies of documents.

They also implemented an e-procurement system, which enabled them to process at least 30% more invoices over 3 years, without increasing the number of finance staff.

Other automation examples in the research included the use of robotics to run reports and to do standard cost allocations.

Other interviewees focused on how finance could use data and technology to improve decision-making in the business – for example, helping businesses understand and manage cost drivers better, or providing more real-time, flexible finance information to support business planning or strategy. One company was using chatbots to provide real-time information about customer credit to sales teams.
Cutting across these core benefits were opportunities to improve controls and risk management. For example, implementing new systems introduced new formal checks and audit trails. Automation of processes led to more automated controls, with less risk of human error or misuse. Furthermore, companies had more data available, so finance could increasingly look at all transactions, spot anomalies, highlight potential bottlenecks and anticipate future failures.

The industry sector that the company was operating in could influence the focus of digital transformation activities. Financial services have a heavy regulatory focus, so it was felt that digital initiatives here were more focused on risk and compliance. In contrast, companies in the technology or media worlds were much more likely to be focused on gathering information to support fast-paced growth in highly competitive markets, so their transformation activities tended to emphasise data and business partnering improvements.

Organisational size was also another potential differentiating factor. Most of the companies in our research were relatively large, and transactional activities were often either hived off into shared service centres or outsourced. Where this had happened, the emphasis in shared services organisations was on efficiency and automation, with other parts of the function more focused on improving business support. In smaller businesses, digital transformation in practice meant using new or better software to increase accuracy and efficiency.

However, whether there were country-level differences related to culture, for example, was not made clear by this research. Many of the finance personnel we interviewed had responsibilities across multiple countries, and any major differences found between countries appeared to reflect the wider economic circumstances, such as the levels of digitalisation and the differing approaches of governments. Further research, involving a larger sample of companies, may be useful to address this question.

TAKING AN ITERATIVE APPROACH

‘Digital transformation doesn’t happen overnight; it takes a long time.’

Even those interviewees who provided the most successful examples of digital transformation in our research recognised the practical difficulties, and agreed that digital transformation is a long process and does not happen overnight. Indeed, the idea of transformation in finance has a long history, and some companies in our research had been delivering technology-based changes and improvements for many years.

However, there are a number of building blocks that need to be in place for digital transformation to be successful. As well as major changes for people, making the most of digital capabilities in finance functions requires a renewed focus on process standardisation and data governance in particular. This takes time and our research showed that finance functions were at very different stages on this journey.

Several conversations highlighted companies’ continuing reliance on manual processes and their difficulty in moving to more digital and automated processes. In some cases, this reflected a lack of trust in the technology, and manual and paper-based processes continued alongside the software. Other interviewees referred to the difficulty in changing behaviour and the desire of staff to keep doing things in the same ways.

Our interviews found that finance functions at companies that had expanded into different countries or that had grown through acquisitions faced a number of common challenges, such as non-standard processes. They often had to deal with a wide range of systems and processes that reflected country or business unit preferences, leading to lots of manual intervention and a heavy reliance on spreadsheets.
Current inefficiencies and manual processes gave rise to another common theme - finding time to deliver change. Most staff spent all of their time doing their day job, and finding time to rethink processes, identify opportunities for improvements and then deliver them was very difficult, slowing down transformation.

Given the amount of work involved, successful transformations often take an iterative approach, which emphasises small and continuous improvements over ‘big bang’ style change. This approach provides greater agility to respond to changes in the technology and encourages constant learning about success and failure in practice.

It also enables finance functions to get started quickly with changes which help them to deliver more insights to businesses and demonstrate their higher value. This is important because many of our interviewees emphasised the urgency of finance making this transition to retain relevance and avoid lagging behind other business functions, given the rapid pace of technological change.

SHIFT TO BUSINESS PARTNERING

‘Accountants can tell a clear story that brings together different pieces of data and ensures that the data is not being misunderstood.’

Providing more value to businesses is one of the strong themes in finance transformation. This involves finance working closely with other business functions to deliver more analyses that support and influence commercial, operational or strategic decisions.

The research highlighted a range of experience in this context. In some cases, business partnering activities were well established and digital transformation had provided finance functions with good opportunities to extract more insights from data and to increase their value to the business. This built on existing close working relationships between finance staff and other business functions and included providing more real-time information and creating dashboards with better drill-down capabilities.

In other cases, finance functions were still primarily focused on transactional work and therefore a much bigger reinvention of the function was needed as part of digital transformation. Our research highlighted a variety of challenges in moving to a business partner role, including having the capabilities to deliver higher-value work and creating the demand from other business functions for more insight from finance.

Some interviewees expressed doubts about whether the value-adding objectives in digital transformation programmes really reflected what other functions wanted from finance. For example, there were concerns that other business functions had the resources and skills to do all the analyses they need themselves, without any direct involvement from finance. In other cases, businesses seemed unclear about how they could use more data, and there was little interest in more planning and forecasting information.

Nevertheless, as automation spreads across finance functions, it was widely expected among our interviewees that the transactional parts of finance would reduce. Therefore, the future role and influence of finance would depend on its ability to demonstrate wider business value, placing greater urgency on the shift to business partnering. In other words, this shift is no longer just good practice or a ‘nice to have’ - it is essential if finance functions are to retain their relevance.
PRIORITIES FOR FINANCE FUNCTION LEADERS

- Be clear about your aims for digital transformation – base them on the specific business context, as a one-size-fits-all approach will not be effective.
- Recognise that digital transformation will take a long time and involve substantial change in many areas, including processes and people.
- Create a sense of urgency. Adopt approaches that deliver iterative change, such as agile methods and piloting, and get started with actions likely to deliver quick wins.
- Focus on delivering more value to the business and on demonstrating how finance can help it to be more successful.
3. Technology and delivery challenges

RESEARCH FINDINGS

• The business case for investing in new technologies in finance functions can be difficult to sustain.

• Process standardisation underpins automation and digitalisation of processes, and therefore digital transformation initiatives often go alongside substantial process improvement activities.

• Data needs to be high quality, standardised and easily accessible to be really useful. For many business and finance functions this requires much stronger data governance processes to be put in place.

BACKGROUND: KEY AREAS OF TECHNOLOGY FOR FINANCE FUNCTIONS

Accounting and ERP systems are the backbone of finance departments because they remain where all the transactional work is done. ERP systems in particular have been major big-ticket investments and companies continue to upgrade or occasionally replace these systems when needed. The major area of change, especially in smaller businesses, has been cloud computing, shifting systems hosted on a computer owned or leased by the company to a shared resource based on the internet. As well as accounting and ERP systems, finance functions invariably have a wide range of spreadsheets which are used for data capture, analysis and reporting.

RPA has generated a lot of interest in large finance functions, providing new capabilities to automate tasks that are standard and repeatable but often done very manually in practice. The robot simply copies what the human would do, for example gathering data from a variety of sources and emailing it, or checking the accuracy of data inputs. There are a variety of other systems that also support automation. Scanning, for example, can be used to eliminate manual data entry for invoices or other documents.

Data technologies and tools, such as dashboards, are another major area of investment for most finance functions. There is some interest in AI but little practical use yet by professional accountants.

BUILDING INVESTMENT CASES

Our research highlighted a variety of challenges in creating effective business cases for some new technologies, making gaining investment more difficult.

The wider business context was a strong influence in building investment cases. For instance, where companies were based in fast-growing economies or making healthy profits, there was little incentive to change. In contrast, companies facing major industry change and intense competition generally found it easier to justify investment.

An example of a challenging business case was RPA. While some of the interviewees found it straightforward to get approval for a small number of robots to try out the functionality in some high-potential areas, it was much harder to justify scaling it up into larger numbers. The business case behind RPA is driven by the volume of transactions to be automated, and even in large companies it could be difficult to reach the threshold needed. As a result, a couple of companies were exploring business
cases based on other benefits. For example, one finance team was looking to develop a business case based on accuracy of data and compliance rather than volume of transactions. Another was looking at RPA as a quick fix to free up time, so they could build longer-term and more sustainable approaches to automation.

Investments in data gathering and analysis software could also prove difficult to justify through hard financial benefits alone, given that the benefits are largely indirect and derived from improved decision-making. While most people would intuitively accept the benefits of robust data in enabling better decisions, the nature of investments here, which are often long-term, substantial and cross-functional, was still problematic.

Furthermore, reluctance to pay much for software at all was observed in some countries. In these cases, businesses were accustomed to paying cash for cheap local software, and for them moving to a new cloud platform with monthly payments represented a big step up in expenditure which could be hard to justify. The justification for procurement of automation also faced challenges in environments where local labour costs were already very low.

NEED FOR PROCESS STANDARDISATION

‘The key challenge for digital transformation is starting from where we are now - we need to standardise processes before we can do much else.’

Process standardisation is not a new topic for finance functions - ERP systems implementations usually involved substantial process re-engineering. But in many cases, local versions of systems or processes continue to co-exist and standardisation was not complete.

New generations of technology are less forgiving of variation. For example, while it can be easy with new generations of technology, especially in the cloud, to configure templates to specific needs, it does not allow for individual customisation of processes in the way that older generations of technology did. RPA also encourages more extensive process standardisation as it delivers consistent application of standard rules. While more advanced technologies such as AI may prove to be more flexible and able to cope with non-standard processes, practical application of AI in finance functions is still in early stages.

As a result, many finance functions in our research emphasised the need for higher levels of process standardisation. While there was general recognition that absolute standardisation would never be possible, processes needed to be as standard as possible.

A number of interviewees emphasised the important role of shared service centres, outsourcing or offshoring in this context. In order for services to be put in these centres, processes need to be as standard, repeatable and rules-based as possible. Therefore, they typically presented a good path towards automation and a few interviewees saw them as an important first step here. Indeed, given their standardised platforms, some were exemplars in digital transformation, with the ability to adopt new tools quickly and at scale.
MAKING THE MOST OF DATA

‘Many finance functions are upping their analytics capabilities but it’s often still ad hoc. Analytics are not part of standard processes and finance functions struggle to show tangible value.’

Digital transformation in finance functions also focuses on using data more effectively to inform business decisions. Combining new sources of data, more sophisticated analytics, better visualisation, and more real-time data provides finance with opportunities to offer more insights and improve decision-making.

EXAMPLES FROM THE RESEARCH: NEW WAYS OF LOOKING AT DATA

In one company, the finance function was using AI in its quarterly forecasting activities, instead of purely relying on manual analysis of spreadsheets.

This development was due in part to the exponential growth in the volume of relevant data available and the ability to use a variety of modelling approaches, including time series and regression analysis, to visualise the data and provide richer analyses. The approach was also automated through machine learning. These more advanced techniques produced forecasts with an average accuracy of 98-99%.

However, the purpose of adopting AI was not to supplant human judgement, but to supplement the finance team’s perspective and support higher-quality discussions when conversing with other business functions.5

However, dashboards, analytics and artificial intelligence only work if the data is of good enough quality, consistent and accessible. While finance data is of a high quality, the problems of disparate systems led to a lot of manual effort to integrate and reconcile data. With non-financial data, some concerns were expressed about new sources of data where there was far less control or audit around the provenance.

Data standards - or lack of them - was another difficulty, making it harder for everyone to speak a consistent language across the organisation. A few companies used the example of agreeing on their headcount number, which was complicated by different departments using different definitions for different reasons. With such disparity, making greater use of data-based tools was hard.

Companies were taking a number of distinct approaches here. Data governance was referenced on a number of occasions, with some recognising they were lagging behind some peers in their data practices and others feeling that they had invested a lot of time and effort into building taxonomies and were now reaping the benefits. Data lakes were another solution, whereby data was placed into a single repository and then structured as needed for business use and analysis.

There were also challenges in understanding the real potential of data and how to use it. In a few cases, businesses seemed to have little interest in using data to provide new insights and improve business planning and forecasting. In other cases, there was recognition of the potential value of data, but finance was still in quite early stages of working out what to do with it all.
Interestingly, in several of the most advanced companies, there was some robust challenge about how useful a lot of the new data really was. For example, the volatility of the business environment raised questions about the robustness of macro-level forecasts. There was some scepticism about the value of correlations in data and the extent to which they would provide useful insights. There were also apprehensions towards the over-reliance on data, and the dangers of people becoming too focused on computer outputs, rather than using their own judgements.

These concerns perhaps reflect the maturity and experience that many finance professionals have around data, as well as their natural scepticism, attention to detail and disciplined approach. These can be real strengths of the profession, bringing a realism to discussions and helping business functions to build robust, grounded and value-driven approaches to data.

**PRIORITIES FOR FINANCE FUNCTION LEADERS**

- Recognise the wide range of tangible and intangible benefits that can be achieved from technology as part of the business case process.
- Focus on process standardisation as a key step to achieving automation and leveraging digital capabilities.
- Prioritise strong data governance across the organisation.
- Work closely with business functions to understand their real problems and how data can help solve them.
4. Changing roles and skills

RESEARCH FINDINGS

- Most finance functions recognise the importance of professional accountants having more skills in technology and data, although the level required varies by organisation.

- The need for more data analytics skills in particular is reflected in a wide range of training activities, including innovations such as data competitions.

- The shift to business partnering emphasises business and commercial knowledge, as well as softer skills, and some finance functions indicated a talent shortage in this context.

ENHANCING TECHNOLOGY AND DATA ANALYTICS SKILLS

The automation of finance processes and shift to business partnering significantly changes jobs in finance functions. The research provided evidence of more touch points with IT staff or data scientists, and some process-oriented staff were being redeployed into other roles as a result of automation activities. Business partnering roles often had a stronger focus on data analytics. However, overall, there was a sense of being able to do more with the same resources, rather than a radical reshaping of functions.

There was strong agreement that professional accountants needed stronger skills in technology and data to enable them to work successfully in increasingly digital environments. All interviewees agreed on this point and most characterised the skill level needed to be that of an ‘intelligent buyer’. This degree of knowledge would enable accountants to work with technology specialists, understand enough of the technical context to ask good questions and challenge assumptions, as well as make good use of tools.

Companies in our research reported demand for new skills in data analytics in particular, with a growing need for professional accountants to do more analytics work themselves. Although the baseline analytics skills needed was increasing in most cases, the specific requirements varied significantly between organisations. In most cases, data scientists continued to sit in separate specialist teams and work with finance as needed, rather than being directly recruited into finance. Programming was recognised as a useful skill but organisations would probably still hire specialists if looking for deep technical capabilities. However, the research also found examples of professional accountants doing more advanced analytical work and developing skills in Power BI or the programming language Python.

Other roles also sometimes demanded specific technology skills. Those working with robotics often developed skills around RPA, even if the majority of the implementation work was carried out by technology specialists. In a couple of departments individuals acted as focal points in specific technology areas, such as RPA, and helped others as needed.

However, skills needs would inevitably change over time, as the technology and demands on finance continue to evolve. This requires regular and substantial reskilling, a trend that is likely to accelerate in the future.

APPROACHES TO TRAINING AND RESKILLING

In response to the need for more technology knowledge, many finance functions were offering courses to raise general awareness of technology trends. A lot of larger companies were developing new learning management systems to provide a range of more targeted courses for staff to access. There were also less formal ways of training and a number of companies were supplementing training with short sessions in knowledge sharing between peers, or with leaders.
EXAMPLES FROM THE RESEARCH: DATA SKILLS

One company had inaugurated a big data competition to encourage its commercial finance team to think about problem-solving with data. After some initial training, staff were given a data block to play with, and a challenge to present some new business insights drawn from the data. This competition proved popular, with more than two-thirds of the team participating, and the company planned to repeat it in other countries.

Another company had developed a series of ‘belts’ around skills in data – from red to black – to provide a structured approach to learning and ensure the right level of skills for different roles. Red, for example, represented the skills needed of a basic end-user of tools, such as the ability to access and analyse more detailed breakdowns of data. Having a green belt meant that the person had the skills to build dashboards. A black belt was the most advanced, with the person being able to build data cubes.

In countries such as Cambodia, the emphasis was on teaching accountants to use accounting software and to understand the basic functionality that they needed. In practice, this was often not the top priority of finance functions – although better technology skills were valued, most efforts were focused on getting enough accountants with good basic accounting skills to be able to do the job. But in some cases, regulators were pushing for accountants to improve their technology knowledge. For example, in Indonesia, technology courses were included as part of the profession’s mandatory Continuing Professional Development.

A number of issues were noted about company training. One interviewee felt that training could sometimes be fairly bland and it needed to be very specific and relevant to be most effective. Moreover, although there was a lot of stated commitment to training, budgetary challenges were reported by some, as well as a lack of time for staff to take training.

IMPORTANCE OF BUSINESS AND SOFT SKILLS

‘The focus should be on the business, not finance. Finance data is important, but it’s only a reflection of the business; it isn’t everything.’

The focus of digital transformation has often been on technology skills. However, given that a key element of digital transformation for finance is to increase business support, business knowledge and softer skills become just as important. Indeed, ensuring that finance professionals have a broad base of business and commercial knowledge was felt to be critical. A lot of the interviewees described how professional accountants should have a strong understanding of what drives business success, how they can use the right metrics to measure and track success, and the end-to-end processes required to deliver effective and efficient business operations.

One common characterisation of the role and value of finance was as storytellers around data – making it relevant to the business and ensuring a robust interpretation. Given that professional accountants already have a mature approach to financial data, they can be well positioned to lead others in the organisation here. Others talked about how finance can play a vital ‘translator’ or ‘bridging’ role between the technology specialists and other business functions. Their particular blend of knowledge helps them to frame good questions or hypotheses to test, for example, and develop roles that may be hybrid but very valuable.
The shift to business partnering also emphasises communications and relationship skills. As one interviewee commented, if transformation of the finance function was effective, people in other business functions would be naturally drawn to seek finance’s perspective on their problem. Therefore, having empathy, explaining things clearly, making connections and helping people solve problems will be increasingly important skills.

Critical thinking is a further skill that is regularly cited in this regard. The ability to analyse facts or elements in order to come to a judgement is the essence of accountancy but also underpins effective use of data. Asking good questions, assessing answers, deciding how much weight to put on different features, not taking things at face value – these are all important steps in getting reliable insights from data and managing risks around technology.

However, a number of interviewees felt there were significant talent shortages with regard to business and wider commercial knowledge. While in most cases, there were plenty of professional accountants with good technical accountancy skills, some companies were struggling to recruit staff with this broader skill set.

One way of helping finance professionals gain this wider perspective is to encourage them to work in other parts of the business. One company had used secondments into business functions as a way of doing this. This helped both the finance professional better understand the business environment, and the business recognise the value that finance can bring. Training from other parts of the business can also help finance professionals with understanding the world from other perspectives. One CFO, for example, reported doing sales courses on account business planning to get a better understanding of how sales people approach these questions.

**PRIORITY FOR FUNCTION LEADERS**

- Develop structured approaches to fulfil new skills needs, especially around data.
- Explore new ways of building skills and experience, such as data competitions, or less formal approaches like knowledge-sharing sessions.
- Recognise the importance of softer skills such as communication, empathy and problem solving.
- Encourage finance staff to gain practical experience in other parts of the business.
- Make a commitment to learning and development so that staff have the time and resources they need.
5. Behavioural change and overcoming resistance

RESEARCH FINDINGS

- Successful transformation requires a culture of change and continual learning in finance functions, which can lead to a big shift in behaviour and mindset.
- Strong leadership and a clear vision are essential to delivering transformation, supported by consistent board sponsorship and the right people to drive change on the ground.
- Managing concerns about technology-driven change and helping staff to adjust to changing roles are also key to success.

A CULTURE OF CHANGE AND CONTINUAL LEARNING

‘Be clear about what you want to achieve and make it inclusive and relevant to everyone.’

Transformation requires a significant change in behaviour and culture, which emphasises learning, change and experimentation and is quite different to the traditional way of thinking in finance.

To some extent, according to our interviewees, this was about attitude - the willingness of individuals to change - as well as the capabilities and skills to relearn and adapt to whatever is needed by the business. It also linked strongly to the need for reskilling and continuous training.

Demographics can help in this - it may be easier for younger people to change because their behaviour is less ingrained and they are closer to their years of formal education. However, there was a consistent view that it was ultimately down to individuals and it was simplistic to generalise based on factors such as age.

Learning from experience, experimenting and allowing a certain level of failure were other elements of this culture. Doing pilots and staged approaches to software development is well established in agile methodologies. This can work particularly well with technologies such as RPA, AI or data analytics.

Indeed, given the speed of technological change, this approach was felt to be essential to getting started and making some progress, although there had to be firm discipline as well as a clear focus on value.

To help develop this mindset, one company emphasised the approach of ‘marginal gains’ that is common in sport - recognising the value of small and constant improvements. This helped to motivate all staff to identify improvements in what they did, and see the relevance of the change to them. It also got people used to an environment of constant change.

But changing behaviours in these ways was perceived as a big step change by many, and counter to many traditional ways of thinking in finance. For example, it required a willingness to take risks and embrace failure, as inevitably not everything will work. Analyses needed to become more forward-looking, not just reporting what has already happened. It also required higher levels of collaboration with other departments, leading to a shift from more inward-facing ways of working.

Furthermore, a number of interviewees highlighted the challenges of working with non-financial data, where there may be less focus on total accuracy or the provenance of data, compared with finance data. Being comfortable with less control and accuracy was described in a number of ways - applying the 80/20 rule more often, for example, or thinking more in terms of thresholds and materiality than absolute accuracy. However, it was recognised to be a significant culture shift in many finance functions.
THE IMPORTANCE OF LEADERSHIP IN CHANGE MANAGEMENT

Our research highlighted the importance of strong leadership to communicate the vision and inspire finance functions to be open to this change. Given the challenging nature of some of the changes outlined above - such as accepting failure, taking risks and constantly learning - it was felt to be critical that the CFO and other senior management lead by example. The leadership team also needed to show urgency and recognise the importance of the transformation to the future of finance functions.

Strong finance leadership was underpinned by clear sponsorship from the board and other business areas for change. One CFO highlighted the powerful role that the CEO and leaders of other business functions could play in reinforcing and amplifying the benefits of change in finance.

This was not always easy though as there was common experience of leadership cycles, where senior management changed every 3 to 4 years. This could limit the ability of organisations to bring about deep and meaningful culture change. Often, a new CFO - or the wider board - wanted to assert their priorities and culture when taking over, making it harder to deliver longer-term projects.

Finally, the CFO needs to have the right support. Many interviewees highlighted the value of a senior and credible leader for digital transformation. Such a person would have delivered digital change before, had good experience in the field and reported directly to the CFO. Based on the interviews, such roles were often filled by people from outside the organisation.

MANAGING RESISTANCE AND DELIVERING CHANGE

‘You need to make sure that culture change is a key part of the project as there are lots of concerns on the ground.’

The interviews captured a general belief that the majority of staff understood the need for change and were supportive, even if it could be difficult for them personally and it took some time to adjust. However, some resistance was inevitably still encountered and needed to be managed. This reflected people’s desire to stay in their comfort zone and stick to what they knew, as well as fears about jobs or insufficient knowledge. Formalising systems also brought greater transparency and accountability to processes, which was not always welcome.

Good communication underpins effective change management, and this was recognised throughout our research. Management needed good skills in communication, including listening to concerns and understanding the impact of change throughout the different layers of the organisation.
EXAMPLES FROM THE RESEARCH: CHANGE MANAGEMENT

A number of companies had implemented the role of change champions, who helped to encourage transformation and support staff amidst the changes at work. One company described these change champions as people who were not digital experts but focused on listening to their colleagues’ concerns and issues, showing empathy and providing feedback to management.

There were many other examples of initiatives to support change, including the following.

- Visits to other companies to learn about what was happening in other industries.
- Awards for staff who exhibited the right behaviours as motivation for others to follow.
- Townhalls to enable the leadership team to meet staff and reinforce consistent messaging.
- Job or role rotation to help people become more adaptable.
- Progress updates on the intranet to motivate participation in the change across the company.
- Quarterly management meetings to emphasise key processes for staff to focus on improving.

RPA is an area that causes particular challenges because it often leads to concerns about redundancy. RPA projects require the support of people to share their knowledge about the process, but with RPA being introduced, it would result in the automation of the task. Again, interviewees recognised this sensitivity and a number of companies stressed the importance of helping people to retrain so they could be redeployed elsewhere. However, some questioned whether this was always going to be realistic and feasible, as new roles were likely to require substantially more analytics skills and, in practice, retraining may not always be possible.

Empowering staff at all levels to play their own part in the transformation was another point highlighted by interviewees. One company encouraged voluntary adoption of technologies, rather than mandating change. Its approach focused on early adopters, who would extol the benefits of new technologies and demonstrate the benefits. This would encourage others to join and create positive peer pressure to promote adoption.

PRIORITIES FOR FINANCE FUNCTION LEADERS

- Lead by example on the key elements of behavioural change, such as accepting and learning from failure.
- Recognise the power of continual, incremental change to deliver long-term transformation.
- Provide a clear and relevant vision to empower employees of all levels to play their part in change.
- Develop strategies to recognise, learn from and manage resistance, and build good communication into all levels of projects.
6. Reflections from the research

FOR FINANCE FUNCTIONS AND THEIR LEADERS

There are many frameworks and good practices which can help finance functions respond to the changing business environment and use new technologies to improve what they do. Furthermore, this report has shared a variety of suggestions from professional accountants leading digital transformation and other experts on key priorities.

However, our research has also highlighted how far many finance functions are from the idealised visions of digital transformation, whether that is successfully automating processes, or using data to add more value to the business. Consequently, finance leaders need to be realistic about what is involved in transformation and the breadth of activities involved – be it technology, process change, data governance or building the right skills, capabilities or culture within the function.

To some extent, focusing on the idea of ‘transformation’ can be misleading, as it has a sense of overnight change. But transformation is difficult and many of the small steps needed along the way may not feel very transformational in isolation. The magnitude of change may only be recognised when looking back over what has been achieved over a period of time. As a result, managing expectations about the pace and nature of change is critical.

Furthermore, while our research showed great examples of finance functions using technology and working with other business areas to deliver more value, this is not inevitable. As other business areas build their own capabilities around data, finance will need to demonstrate the value that they bring. While business partnering is not new, the transactional role of finance functions has enabled them to remain relevant, whether or not they play this wider business role. As the transactional side of finance shrinks, business partnering becomes essential and therefore the shift towards these activities is pressing for many finance functions.

Therefore, finance leaders need to define their strategy clearly based on the specific business context, and the best ways for finance to demonstrate its value. They need to communicate their vision, lead by example and encourage profound shifts in finance activities and cultures. And, most importantly they need to inject some urgency into securing quick wins and getting started with change.

FOR PROFESSIONAL ACCOUNTANTS

On a personal level, digital transformation reflects an opportunity for significant change. For many professional accountants, there will be a shift in focus, from repeatable processes to more analytics and data-driven work. It will require closer working cooperation with other business functions, and good understanding of business models, markets and innovation. This provides opportunities for more interesting jobs which will have a real impact on the success of organisations.

Professional accountants will need to be committed to training and reskilling on a regular basis, and to embracing a culture of change and continuous learning. This might include developing skills in handling new technology and data and acquiring more extensive business knowledge. Being comfortable with less precise, non-financial data, being more forward-focused, taking risks and learning from failure are behavioural traits that underpin successful digital transformation, although they can run counter to many traditional accounting ways of thinking. In short, a significant culture and mindset change is required.

Finally, our research highlighted the importance of empowering professional accountants at all levels to be involved in change. Digital transformation will impact everyone working in finance functions at some point; therefore all professional accountants should reflect on how they can best respond to the new challenges and opportunities.
FOR PROFESSIONAL BODIES AND EDUCATORS

Professional bodies play a key role in supporting the training of accountants around technology and the specific applications in finance functions, especially for smaller businesses. ICAEW, for example, has developed an online learning programme for its members, Finance in a Digital World, which looks at how technology is driving finance transformation. ISCA has also developed a Professional Accountants in Business (PAIB) Framework, which provides an overview on the five key DNAs of PAIBs, one of which is Future Finance. The Framework then ties in with a corresponding PAIB Learning Roadmap which helps identify skills and competencies that finance professionals would require, and recommends relevant learning opportunities for them.

The content of such training will vary based on the maturity of the economy, and specific needs of roles. Increasing data analytics will be a core priority for many professional accountants. However, training needs will change over time as roles in finance functions evolve.

Linked to this is the mindset for change, and the importance of having the attitudes and culture which embrace constant learning and more experimental approaches. Of course, professions such as accountancy have continuing professional development at their heart, so ongoing training is embedded in how the profession operates. Thus, professional development programmes must increasingly involve far greater levels of re-skilling, not just technical updates, as well as wider cultural change.

To date, most finance functions have not seen radical change in terms of the roles of staff. Many finance functions still require a significant number of process-oriented people. However, this will likely change in the long term. If the true potential of automation is realised by more finance functions, there will be a more radical reshaping of the profession. Not everyone will have the skills, aptitudes and desires to do more analytical or value-adding jobs and the profession needs to be prepared for more disruptive change.

Finally, professional bodies should recognise the diversity of experience, the different starting points and the different visions for what a successful finance function in a digital world looks like. Frameworks, good practices and learning from exemplars in the field play a very important role in helping finance functions to change. However, it is also useful to create opportunities for professionals working in finance functions to share real-world experiences, identify practical, common lessons and make change relevant to everyone in the profession. Professional bodies can play an important role in facilitating this knowledge exchange through research such as this, networking events, online communities and case studies.
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Further resources

Bain and company (2018), Advancing towards ASEAN digital integration.
Deloitte (2017), Crunch time, too: CFOs talk off the record about finance in a digital world.
ICAEW (2015), Providing leadership in a digital world.
ICAEW (2017), Big data in Chinese businesses.
IFAC (2018), Perspectives on the finance function journey.
ISCA (2018), Learning Roadmap for Professional Accountants in Business
Singapore Management University and Trompenaars Hampden-Turner (2018), Cultural transformation in the digital world; research report.
End notes

1 See, for example, the summary of benefits in the World Economic Forum and Accenture Digital Transformation Initiative, and Going Digital: Making the Transformation Work for Growth and Well-Being by the Organisation for Economic Co-operation and Development (OECD)

2 The ASEAN Digital Initiative, facilitated by the World Economic Forum and the International Organization for Public-Private Cooperation, includes a pan-ASEAN Data Policy, ASEAN Digital Skills, ASEAN e-Payments and ASEAN Cyber Security. The ASEAN organisation also has a Digital Integration Framework.

3 For a wide range of international case studies, see ICAEW (2019), Digitalisation of tax: international perspectives

4 For more information on the fintech sectors in the UK and Singapore, see ICAEW and ISCA (2018), Fintech Innovation: perspectives from London and Singapore.

5 See ‘Microsoft’s world-class finance organization digitally transforms forecasting with innovative machine learning solution’ at customers.microsoft.com

The ICAEW Tech Faculty represents chartered accountants’ tech-related interests and expertise, contributes to tech-related public affairs and helps those in business to keep up to date with tech issues and developments. The faculty also works to further the study of the application of tech to business and accountancy, including the development of thought leadership and research.

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