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## Introduction

The world is changing: businesses have more access to data and more analytic firepower at their disposal than at any other point in history. Businesses in the Asia Pacific region are some of the fastest-changing in the world. The demand for new future-focused skills in Singapore, Hong Kong, and Malaysia is increasing at pace.

As businesses, jobs, and entire economies evolve, we need to keep track of the skills professionals will need in the future.

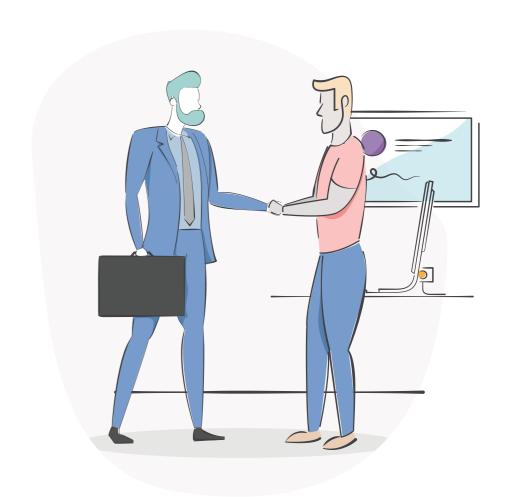
To make sure we're focusing on the right skills, we ran our own research project: this April we asked over 1,500 professionals to predict which skills they would need further training on in the next decade.

Our market research focused on present skills and future skills. The objective of the project was to ask professionals in the role to identify the skills they think people in their profession most need training on in the present, and to predict which skills are going to be a key training priority in the future.

In total, we collected responses from over 1,500 professionals working in the Singapore, Hong Kong, Malaysia, and the UK. In this report we're examining the data we collected from Singapore, Hong Kong, and Malaysia. We asked the respondents to look at a list of over 30 skills related to their roles and to answer two questions:

- 1. Which five skills do you think professionals most need further training on in the present?
- 2. Which five skills do you think professionals most need further training on in the future? (10 years' time)

This report includes some of the results from this research project, including present skills rankings and future skills rankings for seven different roles.



## Future skills in human resources

For HR professionals, the conversation about technological change focuses on people analytics.

People analytics can be used to help HR professionals make evidencebased decisions. The application of analytical and predictive techniques to HR data could be used to enhance recruitment processes (helping to more accurately select the right talent by predicting performance) or to increase the automation of HR solutions to make processes more streamlined both for the HR professional and for the employee.

If HR functions are to take advantage of the improved efficiency, processes, and insights that people analytics can deliver, there will need to be investment in the systems to collect and manage improved organisational data and an investment in the technical skills of HR professionals themselves.

According to research from Deloitte, HR professionals in Asia may be ahead of other parts of the world when it comes to working with people data.

In 'Human Capital Trends', Deloitte publishes a table that shows the percentage of professionals who think a trend is 'important' or 'very important'. 90.1% of professionals in Asia consider people data to be 'important' or 'very important' in their businesses - higher than any other region of the world.

The CIPD, in their report **People Analytics: 'Driving Performance with** People Data', talks about a 'people analytics culture' in businesses, and they've found that SE Asia has the highest percentage of businesses with a strong people analytics culture:

"Data shows that people analytics culture varies across geographies, with only 36% of UK respondents believing they have a strong people analytics culture, compared with 37% in the US, 52% in MENA and 54% in SE Asia."

The CIPD research also found that HR practitioners in SE Asia were also the most confident with using a broad range of different types of people analytics.

Rank	HR - present skills	Percentage
1	Building HR capability	39%
2	HR consultancy	38%
3	Personal development	32%
4	Contributing to business change	30%
5	Providing support and advice	29%
6	Communication	24%
7	Developing and delivering training; training facilitation	23%
8	Relationship management	22%
9	Training needs analysis	21%
10	Data analytics: people analytics	18%

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HR professionals told us that their
present training needs are focused on
building HR capability and
HR consultancy.

This lines up with what we know from our own work with HR professionals: HR departments are actively engaged in equipping employees with the skills they need for the future, and building HR capability (which is defined as "leading the improvement of people capability within the business") is the skill that helps them do this.

The final section of this report, 'Organisational capability', explains BPP's own process for assessing the skills and capabilities within a business.

Rank	HR - future skills	Percentage
1	Big data and analytics fundamentals	23%
2	Building HR capability	22%
3	Contributing to business change	21%
4	Future skills and organisation capability analysis	20%
5	Data analytics: people analytics	19%
6	Developing and delivering training; training facilitation	17%
7	Natural language processing, predictive algorithms, self-learning	17%
8	Digital transformations and change	17%
9	Leading in a digital world	16%
10	Leadership	16%

When HR professionals turned their attention to the future, they thought about data and analytics: big data and analytics fundamentals was the #1 future skill for HR professionals. People analytics also came in at #5.

This makes sense when we consider the amount of people-related data available in modern businesses. Businesses collect data when they begin recruitment, even more data at point of hire, they record employee performance in a host of ways, and sometimes they use that data to determine which employees are best placed for succession planning and promotions.

The prominence of data skills in the HR future skills list tells us that skills in data analytics – and people analytics – are something we should focus on when we think about training HR professionals in APAC.

# Future skills in management

Management is a set of skills that span all business units and most – if not all – job functions at the more senior level.

As all industries move into an ever more globally connected and technologically driven world, roles and functions will change, and that also applies to leadership and management roles.

New technology changes the way teams function – not only does it accelerate their capability, but it also opens up new ways of interacting and coordinating on a day-to-day basis. While 'digital leadership' is a term that has been used to mean many things, in this context it means something quite specific: the ability of a manager to manage a team digitally, often remotely, and to consider the digital and technological capabilities of their team when leading and managing.

Rank	Manager - present skills	Percentage
1	Managing people	53%
2	Building relationships	31%
3	Decision-making	31%
4	Finance	27%
5	Operational management	25%
6	Management of self	22%
7	Project management	21%
8	Self-awareness	19%
9	Innovation and risk-taking	17%
10	Big data and analytics fundamentals	17%

At the top of the manager - future skills list in APAC, we have the traditional elements of management: managing people and building relationships.

At #4 we have finance, which is interesting because at BPP we find financial literacy – sometimes called 'financial fluency' – is a common skills gap for managers, which these rankings confirm.

#### Rank Manager - future skills Percentage 29% Managing people **Building relationships** 23% 3 Decision-making 22% 22% Big data and analytics fundamentals 5 Digital innovation, entrepreneurship and disruption 22% 20% Innovation and risk-taking 7 Operational management 18% 18% Leadership 9 Project management 17% 10 17% Leading in a digital world

While the traditional management skills – managing people and building relationships – are still at the top of the manager - future skills rankings, some of the items further down are perhaps more interesting.

Big data and analytics fundamentals comes in at #4, which is also a high priority for HR professionals (see 'Future skills in human resources' for more detail). Employees generate a lot of data as they work, and some organisations are beginning to use this people-centric data to improve people management.

At #5 we can see digital innovation, entrepreneurship and disruption. As technology changes the way businesses work, and the way employees and managers relate and collaborate in the workplace, it's important that managers can keep up, which explains why this skill appears in the top 10.

## Future skills in accountancy

Accountancy is changing rapidly: with new data analytic capabilities, automation taking over many audit tasks, machine learning augmenting decision-making, and blockchain promising to streamline bookkeeping, the skillset of the accountant will need to evolve.

Automation is changing audit rapidly: because many audit processes are good candidates for automation, the audit professional is spending an increasing amount of time thinking about the outputs and inputs of an audit, rather than doing the mundane cataloguing and calculation.

As tax becomes more digitally mature, the elements of the tax assessment process that are facilitated by technology increase: governments could, perhaps, use bank statements or cross-check data submitted with other filings. Governments may eventually assess tax without the need for manually submitted forms from taxpayers. Tax professionals need to be equipped with the skills to operate in this increasingly digital environment.

Accountants in APAC need to be prepared for these changes. Nick Pollard, Managing Director for Asia Pacific at the CFA institute, said "Performance analysts or accountants who mainly collect data from companies, may spend several weeks going through annual reports and other documents to compile data, but Al may be able to produce this data in just a few seconds."

Accountants in Singapore, Malaysia, and Hong Kong need the skills to work alongside or with this technology, so that they can take advantage of the speed and efficiency it can bring to the accounting process.



Rank	Accountant - present skills	Percentage
1	Tax	44%
2	Advisory and consultancy	43%
3	Audit	42%
4	Governance, risk and compliance	31%
5	Strategy and innovation	24%
6	Financial management	22%
7	Stakeholder relationship management	20%
8	Management accounting	20%
9	Professional ethics	18%
10	Corporate and business reporting	17%

Accountancy professionals in APAC were inclined to select relatively traditional accountancy skills as the key present training priorities.

Tax, advisory, and audit are always going to be focuses for training because they are the core of the profession.

Strategy and innovation is perhaps a more 'future-focused' skill because innovation often means taking advantage of technological innovation or finding innovative ways to approach a changing business environment.

Rank	Accountant - future skills	Percentage
1	Audit	29%
2	Tax	28%
3	Applying robotics, Al and automation to the financial process	25%
4	Governance, risk and compliance	23%
5	Management accounting	22%
6	Financial management	22%
7	Advisory and consultancy	20%
8	Professional ethics	19%
9	Stakeholder relationship management	19%
10	Applying distributed ledger technology to the financial process	16%

When we asked APAC accountants to identify the future training priorities, we suddenly see some interesting data, analytics, and technology-related skills.

Applying robotics, Al and automation to the financial process comes in at #3. We know that automation is already improving the speed and efficiency of audit processes in some organisations, and that will only accelerate over the next ten years. Robotic process automation and Al will present new ways to streamline and augment accountancy too, so it makes sense for accountants to say that this should be a training focus.

At rank #10 we can see distributed ledger technology, or blockchain. Although this technology hasn't been widely deployed and adoption rates globally seem to be slow, this result does tell us that APAC accountants would like to see some amount of training on distributed ledger technology to ensure their skills are adequate over the next decade.

## Future skills in financial services

The story in financial services echoes the story of most professions right now: automation is encroaching upon elements of almost every role, speeding up the time it takes a person to perform a particular task or, in some cases, taking that task out of human hands entirely.

How does this change the skills required for the future?

A decade from now, will every financial services job spec contain a shopping list of digital technical skills? How much time will employees dedicate to the 'human' skills that machines can't replicate, like communication and empathy?

The answers to those questions vary depending on whether you're talking about banking or insurance. They vary depending on the role in question. They vary depending on the company, and sometimes the answers vary depending on the individual manager you ask.

In the long term, perhaps 20 or 30 years from now, nobody knows how the balance between 'human' tasks and 'technical' tasks will shift.

In the short term, there are some certainties:

- Some employees will refocus on 'human' tasks, majoring on skills that can't currently – or won't ever – be replicated by an algorithm.
- 2. Some employees will need greater technical skills: they will either work alongside this technology, or they will directly maintain the systems now required by business.

Technology is also putting increasing pressure on regulatory compliance, cyber security, and financial crime risk in the financial services sector.

PwC, in their report 'Fit to compete: Accelerating workforce transformation in financial services', notes that APAC is in an excellent position when it comes to digital innovation in financial services:

"The Asia-Pacific region provides fertile ground for digital innovation, because many of these markets are not held back by the deadweight of technological legacy. Reports project that the Southeast Asian Internet economy will hit almost US\$177bn by 2025, exceeding earlier forecasts. And in recent years, the region has attracted nearly US\$18bn in funding, with more than half going to startup 'unicorns'."

There are three roles from our study that specifically relate to the financial services industry: investment manager, risk and compliance profession, and sales and relationship management.



Rank	Investment manager - present skills	Percentage
1	Digital skills: online investment platforms	50%
2	Strategy and planning	39%
3	Relationship building	39%
4	Decision-making and problem-solving	36%
5	Personal learning and development	34%
6	Understanding of machine learning technology	27%
7	Change management and continuous improvement	25%
8	Financial fluency	23%
9	Applications of robotic process automation (RPA)	20%
10	Big data and analytics fundamentals	20%

Rank	Investment manager - present skills	Percentage
1	Digital skills: online investment platforms	50%
2	Strategy and planning	39%
3	Relationship building	39%
4	Decision-making and problem-solving	36%
5	Personal learning and development	34%
6	Understanding of machine learning technology	27%
7	Change management and continuous improvement	25%
8	Financial fluency	23%
9	Applications of robotic process automation (RPA)	20%
10	Big data and analytics fundamentals	20%

Rank	Investment manager - future skills	Percentage
1	Decision-making and problem-solving	30%
2	Strategy and planning	27%
3	Personal learning and development	24%
4	Digital skills: online investment platforms	24%
5	Understanding of distributed ledger technology (blockchain)	24%
6	Applications of robotic process automation (RPA)	24%
7	Big data and analytics fundamentals	24%
8	Change management and continuous improvement	22%
9	Ethical and legal issues in big data and artificial intelligence	22%
10	Financial fluency	22%

The investment manager skills rankings are laced with skills that relate to data, analytics, and cutting-edge technology.

At #1 in the present skills list we have online investment platforms, which investment managers already need to be well-versed in to do their jobs effectively.

Usually when we see machine learning or robotic process automation (RPA) in these tables they feature in the future skills lists, but for investment managers they feature in the present skills list, which is interesting. Investment management – and many investmentrelated areas of finance – tend to be early adopters of new analytic technologies, so it's useful to know that investment managers feel they need training on these topics immediately.

Rank	Risk and compliance - present skills	Percentage
1	Risk management	44%
2	Compliance mindset development	42%
3	Regulatory compliance	39%
4	Monitoring and surveillance	36%
5	Data collection and analysis	31%
6	Cyber security risk, digital risk management	31%
7	Risk and compliance reporting	28%
8	Big data for risk decisions and financial crime detection	28%
9	Ethical culture	22%
10	Stakeholder management	22%

Rank	Risk and compliance - future skills	Percentage
1	Risk management	39%
2	Compliance mindset development	36%
3	Monitoring and surveillance	36%
4	Big data for risk decisions and financial crime detection	29%
5	Regulatory compliance	25%
6	Stakeholder management	21%
7	Digital transformations and change	21%
8	Lifelong learning	21%
9	Teamwork	21%
10	Ethical culture	18%

Risk and compliance is a profession that depends upon advancing analytic capability: globally, risk and compliance teams are shrinking while the tasks they're required to do increase in volume and complexity. The only way that situation is sustainable is if risk and compliance professionals can use techniques to estimate risk and ensure compliance with more speed and efficiency.

The risk and compliance - present skills list has a few data-related skills, including data collection and analysis

As we look from the present skills list to the future skills list we can see big data for risk decision and financial crime detection climbing from #8 to #4.

Rank	Sales and relationship management - present skills	Percentage
1	Sales planning and prospecting	51%
2	Analysing client needs	42%
3	Establishing client relationships	40%
4	Gathering intelligence	25%
5	Developing client-focused solutions	25%
6	Following up	25%
7	Closing the sale	24%
8	Proposing and presenting client solutions (pitching)	19%
9	Negotiation	18%
10	Client experience management	12%

In APAC, the sales and relationship management professionals select relatively traditional skillsets for both the present skills and the future skills lists: sales planning and prospecting comes in at #1 in both lists.

When we look at the future skills list we can see sales technology and digital skills coming in at #7, which tells us that this is a moderate training priority for the future.

Rank	Sales and relationship management - future skills	Percentage
1	Sales planning and prospecting	22%
2	Gathering intelligence	22%
3	Proposal writing	22%
4	Analysing client needs	20%
5	Negotiation	18%
6	Relationship building	18%
7	Sales technology and digital skills	18%
8	Establishing client relationships	16%
9	Developing client-focused solutions	16%
10	Client experience management	16%

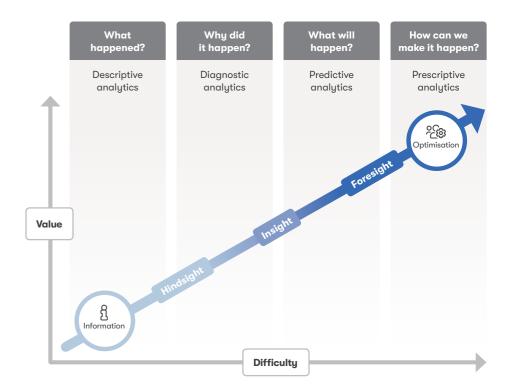
# Data analytics: the most important future skill

Most of the 'future-focused' skills we've mentioned in this report relate to data and analytics in some way: data and analytics will be integral to almost every role in the future.

So what, exactly, do we mean by 'analytics'?

Gartner has a useful working definition of analytics that we can use to properly define what we mean. Analytics is the process of using data to do one of four tasks:

- Describe
- Diagnose
- Predict
- Prescribe



#### Descriptive analytics

Using data to describe a situation.

#### Diagnostic analytics

Using data to make inferences and draw conclusions about why something happened.

#### **Predictive analytics**

Using the data we already have to predict what is likely to happen in the future.

### Prescriptive analytics

Using the data we already have, and the predictions we've made, to prescribe what we should do to achieve a specific outcome in the future.

Some of the most advanced data science techniques in use today, including Al and machine learning, are still performing the same four analytical tasks, but with greater speed, accuracy, and efficiency.

The demand for data analytics roles is growing rapidly in APAC.

According to LinkedIn's 'Emerging

Jobs Report', data scientist is the #1

emerging job in Malaysia:

"Data scientist is again the top emerging job, while data engineer is in the top five and data analyst comes in at 12. This reflects the government's commitment to secure Malaysia as a leader in big data. Initiatives include plans to increase the number of data scientists from 100 to 1,500, while boosting the number of those dealing with data from about 4,000 to 16,000, by 2020."

In **Singapore**, the #1 emerging job is artificial intelligence specialist:

"LinkedIn's emerging jobs list now clearly reflects the country's commitment to becoming a digital nation. Jobs in the field of artificial intelligence, robotics, data science, and cyber security have been growing rapidly over the last five years."

Data analytics skills are laced throughout all of our skills rankings: you can see robotics, Al and automation listed in the accountancy future skills, for example, and you'll find big data and analytics fundamentals listed as one of the top skills for the managers of the future.

We did, however, also want to examine the skills that make up data analytics. We asked respondents who used analytics in their roles to identify the present analytics skills and the future analytics skills where they think professionals need further training.

#### Rank Data analyst - present skills Percentage **Analytics** 48% 41% Data management 3 38% Data governance Data collection 33% Database administration and design 30% 23% Data modelling 18% Data storytelling and visualisation Problem-solving and decision-making 18% Programming and coding 16% 10 16% Emerging technology monitoring

In the present, professionals who do data analytics say that they need more training on the key things that make up data analytics.

At the top of the list we have analytics, which is defined as: "the application of mathematical, statistical, and predictive modelling or machine learning techniques; developing data hypotheses and methods, and training and evaluating analytics models."

Next, interviewees selected data management, data governance, and data collection: these are the essential skills a professional needs to handle data effectively and responsibly.

#### Data analyst - future skills Percentage **Analytics** 23% 23% Data modelling Problem-solving and decision-making 20% Data management 5 Programming and coding 18% 6 18% **Testing** Database administration and design 17% 17% Statistics and mathematics 9 17% Data storytelling and visualisation 10 17% Developing people and performance management

When we asked respondents to select the key future skills, they put data modelling on par with analytics.

Data modelling is a more specific branch of analytics, focused on the creation of algorithms and statistical models in order to generate business intelligence and insight.

Problem-solving and decision-making is the next most important item for the future, which is the skill to identify problems and solve them in the most efficient way possible.

Data management, governance, and collection appear further down in the future ranking, which suggests that in the future professionals hope to focus less on the fundamentals of managing and handling data, and more on the modelling, problem-solving, and programming that leads to superior insight.

# Organisational capability: identifying future skills in your organisation

Business leaders and employees want more from their learning and development teams than ever before. They want quick solutions delivered in a variety of ways that really shift the dial in terms of capability.

The fast-changing business world and digital landscape means it is imperative for all professions to have excellent people skills as well the technical skills they need to do their jobs now and in the future.

Employers are therefore trying to better understand current and future capability needs across their businesses. BPP's organisational capability process is designed to help employers assess the capability needs and skills gaps in their businesses.

Organisational capability has three steps:

### Step 1

Step 1 is all about gathering insight: insight on your market, insight on the job families in your business, and insight on your organisation.

We examine how political, economic, social, technological, legal and environmental influences are impacting businesses and the consequent skills and training needs of their employees. Current employees will need to enhance some of the skills they already have or develop some completely new skills. New employees will need to be equipped with 'future skills' from day one.

## Step 2

We use the insight from step 1 to identify the skills required by employees in the business. We create skills matrices that lay out the skills needed for all roles at all levels, from entry level to middle management and senior management and how those skills build from one level of role to another.

We then work with the employers to identify the level of skill each group of employees has versus where it needs to be, and we create a 'skills heat-map' that shows where training is urgently needed.

## Step 3

The final step in the process involves taking the outputs of the capability needs analysis and working with employers to create tailored capability plans and training programmes which meet the skills requirements in their business.

Those programmes may be existing training interventions that we 'enhance', or new bespoke solutions to plug identified skills gaps.

If you are an employer who is looking for some organisational capability needs analysis support, or if you are trying to identify which types of training programme best fit your business, or if you're just looking for some thought leadership or skills research to support you with your learning and development strategy, contact a member of our organisational capability team.

For more information about the way BPP works with employers to meet future skills requirements please contact:

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