

# Digital Skills - Singapore

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# Methodology

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- This study was conducted online between 3rd-9th March 2021.
- The sample comprised a national sample 1,008 middle managers and above from businesses with 1 to 100+ employees across a diverse range of industries and includes private, public and NFP organisations.
- YouGov designed the questionnaire, a copy of which has been included in this report.

# Key findings

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Just three in ten of the managers surveyed (28%) are very confident that their organisation has the necessary digital skills to succeed (Q1)

- Just three in ten of the managers surveyed (28%) are very confident that their organisation has the necessary digital skills to succeed while six in ten (60%) are somewhat confident, 10% not at all confident and 2% unsure.
- Similarly, managers who are not university educated (14%) are more likely than those who are (9%) to be not at all confident that their organisation has the necessary digital skills to succeed.
- In contrast, senior managers and above (33%) are more likely than middle managers (24%) to be very confident that their organisation has the necessary digital skills to succeed.
- Confidence is also higher amongst managers from larger organisations with 32% of those from businesses with 100+ employees being very confident their organisation has the necessary digital skills to succeed compared to 25% amongst those from organisations with less than twenty employees.
- Not surprisingly, managers in technology services (42%) are most likely to be very confident that their organisation has the necessary digital skills to succeed (compared to 28% overall).
- Managers who believe senior management place a high level of importance on addressing the digital skills gap in their organisation (54%) are much more likely than those who believe the level of importance being placed is just moderate (14%) or low (4%) to be very confident that their organisation has the necessary digital skills to succeed.

# Key findings

- Similarly, managers who have undertaken digital skills training themselves in the past 12 months (32%) are more likely than those who have not (17%) to be very confident that their organisation has the necessary digital skills to succeed.

## Only four in ten managers (39%) believe their senior management is placing a high level of importance on addressing the digital skills gap in their organisation (Q2)

- Only four in ten managers (39%) believe that their senior management is placing a high level of importance on addressing the digital skills gap in their organisation while half (48%) think it is given moderate importance and one in ten (9%) believe only a low level of importance is given to addressing the digital skills gap in their organisation.
- Managers who are university educated (43%) are more likely than those who are not (29%) to think their senior management is placing a high level of importance on addressing the digital skills gap in their organisation.
- Similarly, managers at a senior level and above (43%) are more likely than middle managers (35%) to think their senior management is placing a high level of importance on addressing the digital skills gap in their organisation.
- The perception that senior management is placing a high level of importance on addressing the digital skills gap is also more prevalent amongst managers from larger organisations with 100+ employees (46%) compared to amongst managers from organisations with less than twenty employees (32%).

## Key findings (continued...)

Nine in ten (91%) managers believe that the COVID-19 pandemic has accelerated the need for digital skills in their organisation (Q3)

- Nine in ten (91%) managers believe that the COVID-19 pandemic has accelerated the need for digital skills in their organisation, with four in ten (41%) saying it has significantly accelerated the need, while just one in ten (8%) say it has not accelerated the need for digital skills and 1% are unsure.
- Managers who are university educated (44%) are more likely than those are not (32%) to believe that the COVID-19 pandemic has significantly accelerated the need for digital skills in their organisation.
- Similarly, senior managers and above (45%) are more likely than middle managers (37%) to believe that the COVID-19 pandemic has significantly accelerated the need for digital skills in their organisation.
- Managers from larger organisations with 100+ employees (46%) are more likely than those with less than 20 employees (32%) to believe that the COVID-19 pandemic has significantly accelerated the need for digital skills in their organisation.
- Managers working in Education (51%) are most likely to believe that the COVID-19 pandemic has significantly accelerated the need for digital skills in their organisation (compared to 41% overall).
- Similarly, managers working in the public sector (52%) are more likely than those working in the private sector (40%) to believe that the COVID-19 pandemic has significantly accelerated the need for digital skills in their organisation.

## Key findings (continued...)

Three quarters of managers (75%) surveyed say they have undertaken digital skills training or learning in the past 12 months (Q4)

- Three quarters of managers (75%) surveyed say they have undertaken digital skills training or learning in the past 12 months. However just 12% claim this was a high level of training/learning, while 43% say it was a moderate level and 18% a low level of digital skills training/learning.
- Managers who are university educated (14%) are more likely than those who are not (7%) to have undertaken a high level of digital skills training or learning in the past 12 months.
- Managers from larger organisations with 100+ employees (81%) and 50-99 employees (85%) are more likely than those from organisations with less than 20 employees (64%) to have undertaken digital skills training or learning in the past 12 months.
- Managers working in technology services (86%), Engineering/design/architecture (85%) and education (83%) are most likely to have undertaken digital skills training or learning in the past 12 months (compared to 75% overall).
- Similarly, managers working in the public sector (92%) are more likely than those working in the private sector (74%) to have undertaken digital skills training or learning in the past 12 months.
- Not surprisingly, managers who are very confident their organisation has the digital skills to succeed (85%) are more likely than those who are somewhat confident (76%) or not at all confident (56%) to have undertaken digital skills training in the last 12 months.



## Key findings (continued...)

- Similarly, managers who perceive their senior management to be placing a high level of importance on addressing the digital skills gap in their organisation (24%) are much more likely than those who say the importance being placed on addressing the gap is moderate (5%) or low (1%), to have undertaken a high level of digital skills training/learning in the past 12 months.

The majority (63%) of managers who have undertaken digital skills training in the last 12 months say their organisation provided and/or supported the training (Q5)

- The majority (63%) of managers who have undertaken digital skills training in the last 12 months say their organisation provided and/or supported the training while three in ten (30%) say they received government support. Just 14% of managers say they paid for the training in full themselves.
- Managers who have university degrees (65%) are more likely than those who do not (55%) to say their organisation provided and/or supported the training they undertook in digital skills in the last 12 months, while those who are not university educated are more likely to say the training was government supported (37% compared to 29%).
- Middle managers (68%) are more likely than senior managers (58%) to say their organisation provided and/or supported the training while senior managers are more likely to say they paid for the training in full themselves (17% compared to 11%).

## Key findings (continued...)

- Managers from larger organisations with 100+ employees (72%) and 50-99 employees (66%) are more likely than those from organisations with less than 20 employees (45%) to say their organisation provided and/or supported the training while managers from organisations with less than 20 employees are more likely to say they paid for the training in full themselves (25% compared to 7%, 3% and 13%).
- Managers working in manufacturing (76%) are most likely to say the digital skills training they undertook in the last 12 months was provided and or supported by their organisation (compared to 63% overall).
- Public sector managers (39%) are more likely than private sector managers (29%) to say the digital skills training they undertook in the last 12 months was supported by the government while private sector managers are more likely to say they paid for the training themselves (15% compared to 6%).
- Interestingly, managers who are very confident and somewhat confident their organisation has the digital skills it needs to succeed are more likely than those who are not at all confident to say the digital skills training they undertook in the last 12 months was provided and or supported by their organisation (73% and 61% compared to 42%) and that it was supported by the government (30% and 32% compared to 17%).
- Not surprisingly, managers who significantly believe the government is doing enough to address the digital skills gap (45%) are more likely than those who somewhat believe (28%) or do not believe (19%) the government is doing enough to say the digital skills training they undertook in the last 12 months was supported by the government.

## Key findings (continued...)

Managers surveyed believe the most in demand digital skills for their organisation are data analytics (53%), digital marketing (43%) and digital business analysis (40%) (Q6)

- Managers surveyed believe the most in demand digital skills for their organisation are data analytics (53%), digital marketing (43%) and digital business analysis (40%).
- Other digital skills identified as being in demand for organisations include cybersecurity (39%), social media (36%) and digital design and visualisation (32%).
- Managers who have a university degree are more likely than those who do not to think that the most in demand digital skills required for their organisation are data analytics (58% compared to 37%), digital business analysis (43% compared to 31%) and cybersecurity (41% compared to 32%), while those who are not university educated are more likely to think it is social media (44% compared to 33%).
- Interestingly, senior managers are more likely than middle managers to believe the most in demand digital skills for their organisation are digital marketing (46% compared to 40%), social media (40% compared to 32%) and digital design and visualisation (36% compared to 28%) while middle managers are more likely to believe it is data analytics (57% compared to 48%).

## Key findings (continued...)

- Managers from organisations with 100+ employees and 50-99 employees and are more likely than those with less than 20 employees to believe the most in demand digital skills for their organisation are data analytics (64% and 58% compared to 37%), digital business analysis (48% and 45% compared to 29%), cybersecurity (46% and 42% compared to 28%) and artificial intelligence (39% and 36% compared to 19%).
- Differences also exist between industry sectors with digital design and visualisation identified as the most in demand digital skill by managers working in engineering/design/architecture (51%), digital business analysis by managers in manufacturing (52%) and business services (50%); digital marketing by managers in retail (70%); social media by managers in retail (50%) and education (47%); data analytics by managers in manufacturing (67%); cybersecurity by managers in technology services (53%); and artificial intelligence by managers in technology services (45%).
- Not for profit organisations are more likely than public and private sector organisations to identify social media (63% compared to 30% and 35%) as the most in demand digital skill.
- Not surprisingly, managers who said that their senior management placed a high level of importance on addressing the digital skills gap were more likely than those who say it they place a moderate or low level of importance on it to say the most in demand digital skills for their organisation are data analytics (67% compared to 46% and 38%), digital business analysis (52% compared to 36% and 18%), cybersecurity (45% compared to 36% and 31%), digital design and visualisation (39% compared to 31% and 16%) and artificial intelligence (38% compared to 28% and 12%).

# Key findings

Just one in four (24%) of the managers surveyed significantly believe the government is doing enough to address the digital skills gap (Q7)

- Just one in four (24%) of the managers surveyed significantly believe the government is doing enough to address the digital skills gap while 58% somewhat believe this, 13% do not believe the government is doing enough and 6% are unsure.

Seven in ten managers believe that to help accelerate digital skills in the workforce the government needs to provide more support for small business and regional businesses to embrace digital technology and reskill/transition their workforce (72%) and provide subsidies for courses in digital skills (68%) (Q8)

- Seven in ten managers believe that to help accelerate digital skills in the workforce the government needs to provide more support for small business and regional businesses to embrace digital technology and reskill/transition their workforce (72%) and provide subsidies for courses in digital skills (68%).
- Other actions managers believe government should take to help accelerate digital skills in the workforce include to create more campaigns to encourage business leaders/senior management to upskill their digital knowledge and skills (52%), provide more tax incentives for organisations (49%) and increase placements in higher education (33%).
- Middle managers (72%) are more likely than senior managers and above (64%) to believe that the government should provide more subsidies for courses in digital skills (64%).

## Key findings (continued...)

- Managers from organisations with 100+ employees (36%) and 59-99 employees (40%) are more likely than those with less than 20 employees (27%) to believe that the government should increase placements in higher education to help accelerate digital skills in the workforce.
- Interestingly, managers in manufacturing are most likely to believe that the government should provide support for small business and regional businesses to embrace digital technology and reskill/transition their workforce (80%) and provide subsidies for courses in digital skills (77%) while managers in financial services are most likely to believe that the government should increase placements in higher education (43%) to help accelerate digital skills in the workforce.
- Public sector managers (46%) are more likely than private sector managers (31%) to believe that the government should increase placements in higher education to help accelerate digital skills in the workforce.

### Nine in ten (90%) managers surveyed believe there are barriers for their organisation acquiring additional digital skills (Q9)

- Nine in ten (90%) managers surveyed believe there are barriers for their organisation acquiring additional digital skills.
- Most commonly the key impediment was identified as a lack of resources to invest in digital transition (19%), having a culture resistant to change (16%) and a lack of suitable candidates/people with the right digital skills (13%).

## Key findings (continued...)

- Other barriers managers raised include a lack of knowledge and expertise (12%), having a short term focus rather than focusing on long term gains (12%), a lack of relevant training and education courses (8%) and a lack of a vision or plan (8%).
- Interestingly, managers that are university educated (14%) are more likely than those who are not (6%) to believe that the key impediment for their organisation acquiring additional digital skills is having a short term focus rather than focusing on long term gains while those without a university degree are more likely to think it is a lack of suitable candidates/people with the right digital skills (17% compared to 12%).
- Middle managers (19%) are more likely than senior managers and above (13%) to believe that the key impediment for their organisation acquiring additional digital skills is having a culture resistant to change.
- Larger organisations with 100+ employees are more likely than those with less than 20 employees to believe the key impediments for their organisation acquiring additional digital skills are having a culture resistant to change (18% compared to 10%), a lack of suitable candidates/ people with the right digital skills (17% compared to 10%) and having a short term focus rather than focusing on long term gains (14% compared to 9%). In contrast, managers from organisations with less than 20 employees identify the key impediment as a lack of resources to invest in digital transition (28% compared to 15% - 100+ employees).
- Managers in the construction sector are more likely to identify lack of relevant training and education courses (24% compared to 8% overall) as the key impediment for their organisation acquiring additional digital skills while managers in education think it is having a culture resistant to change (23% compared to 16% overall).

## Key findings (continued...)

- Interestingly, public sector managers (29%) are twice as likely as private sector managers (14%) to believe having a culture resistant to change is the the key impediment for their organisation acquiring additional digital skills. In contrast not for profit organisations are most likely to identify a lack of resources to invest in digital transition (34% compared to 13% for public and 19% for private) as the key impediment.
- Not surprisingly managers who say they are not at all confident their organisation has the digital skills to succeed (18%) are more likely than those who are somewhat confident (7%) or very confident of this (5%) to identify a lack of a vision or plan as the key impediment for their organisation acquiring additional digital skills.

The sector managers surveyed believe is most equipped in acquiring and developing digital skills is technology and communications (45%) (Q10)

- The sector managers surveyed believe is most equipped in acquiring and developing digital skills is technology and communications (45%). This was followed by financial services (18%) and government (10%).
- Managers who are university educated (47%) are more likely than those who are not (40%) to believe the technology and communications sector is most equipped in acquiring and developing digital skills.



## Key findings (continued...)

- Interesting, managers in each sector are more likely to rate their own industry as most equipped in acquiring and developing digital skills with 69% of managers in technology services rating their sector as most equipped compared to 45% of managers overall; 30% of managers in financial services rating their sector as most equipped compared to 18% overall; 27% of managers in retail rating their sector as most equipped compared to just 6% overall; 26% of managers in education rating their sector as most equipped compared to just 6% overall; and 22% of managers in manufacturing rating their sector as most equipped compared to 5% overall.

To improve its digital competitiveness ranking, managers are most likely to believe Singapore needs to focus on digital skills training, to have a highly skilled digital ready workforce (29%) (Q11)

- To improve its digital competitiveness ranking, managers are most likely to believe Singapore needs to focus on digital skills training, to have a highly skilled digital ready workforce (29%).
- Other areas managers believe Singapore needs to focus on most to improve its digital competitiveness ranking include better technology infrastructure, such as strong broadband and internet penetration (16%) and improved digital inclusion and adoption (16%).
- Senior managers and above (16%) are more likely than middle managers (11%) to believe Singapore needs to focus most on an improved regulatory framework to make it easier for businesses to thrive and invest to improve its digital competitiveness ranking.

## Key findings (continued...)

- Interestingly, managers in construction (30%) are most likely to think Singapore needs to focus on improved digital inclusion and adoption to improve its digital competitiveness ranking (compared to 16% overall).
- Managers in the public sector (14%) are more likely than those in the private sector (7%) to believe Singapore needs to focus most on more public-private partnerships to improve its digital competitiveness ranking.

### More than eight in ten (85%) managers surveyed say their organisation has plans in place to fill their 'digital skills gap' (Q12)

- More than eight in ten (85%) managers surveyed say their organisation has plans in place to fill their digital skills gap while just 15% say they do not have any plans.
- Most commonly, organisations are planning for supplementary skilling, reskilling and/or upskilling training (56%), hiring additional digital skilled talent (35%) and outsourcing the requirements to another organisation or planning to introduce technology to plug the gap (33%).
- Interestingly, managers with a university degree (86%) are more likely than those who do not (80%) to say their organisation has plans in place to fill their digital skills gap and in particular more likely to say they are planning for supplementary skilling, reskilling and/or upskilling training (58% compared to 50%) and to hire additional digital skilled talent (37% compared to 28%).

## Key findings (continued...)

- Managers from larger organisations with 100+ employees (93%) are more likely than managers from organisations with 50-99 employees (85%), 20-49 employees (81%) and less than 20 employees (71%) to say their organisation has plans in place to fill their digital skills gap and in particular are planning for supplementary skilling, reskilling and/or upskilling training (62% compared to 48%, 45% and 50%).
- Managers in technology services (49%) are more likely to say they plan to fill their digital skills gap by hiring additional digital skilled talent (compared to 35% overall).
- Public sector managers (97%) are more likely than private sector managers (84%) to say their organisation has plans to fill its digital skills gap and more likely to say it will do this through supplementary skilling, reskilling and/or upskilling training (68% compared to 54% for private sector managers).
- Not surprisingly, managers who are very confident their organisation has the digital skills it needs to succeed are more likely to say their organisation has plans in place to fill their digital skills gap (92% compared to 86% amongst managers who are somewhat confident and 66% amongst those who are not at all confident of this). In particular, managers who are very confident their organisation has the digital skills to succeed are more likely than those who are somewhat or not at all confident to say their organisation has plans for hiring additional digital skilled talent (43% compared to 35% and 18%).
- Similarly, managers who say senior management place a high level of importance on addressing their digital skills gap (91%) are more likely than those whose senior management place a moderate (85%) or low level (62%) of importance to say their organisation has plans in place to fill their digital skills gap and in particular to say they will do this through supplementary skilling, reskilling and/or upskilling training (64% compared to 53% and 40%) and hiring additional digital skilled talent (45% and 31% compared to 15%).

# Thank you

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The background features several overlapping, semi-transparent geometric shapes. On the right side, there are three prominent shapes: a teal one at the top, a pink one in the middle, and a purple one at the bottom. These shapes are layered, with some appearing as outlines and others as solid colors. The overall aesthetic is modern and data-oriented.