DIGITAL TALENT IN MALAYSIA:
Challenges, Opportunities and Trends
‘Digital Talent in Malaysia: Challenges, Opportunities and Trends’ summarises findings obtained from a survey to seek input on digital talent needs and challenges faced by private sector organisations based in Malaysia.

In line with MyDIGITAL and the Malaysia Digital Economy Blueprint, the report gathered input on recommendations and strategic enablers to enhance the development of future-ready digital talents who are well-equipped with the skills required to thrive in the global digital workforce.

This survey was conducted through an online form disseminated by e-mail through SERI and SCMO networks from July 1st to 9th 2021 and results were tabulated on an aggregate basis. Questions required respondents to select from within a scale of options (e.g. from 1-5 in significance or impact with 1 being low or insignificant and 5 being extremely significant) for various statements and they were i) not required to force-rank, ii) statements were not expressed as mutually exclusive and iii) scores were then averaged in order to rank statements.

Respondents were also given options to provide written comments and suggestions through open-ended questions and for these responses, the administrators have interpreted and paraphrased the input where necessary, for ease of reference and to enable broader conclusions to be drawn.

We would like to express our gratitude to all 70 respondents who graciously shared their input and recommendations during the course of this survey.
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Survey conducted by the Strategic Change Management Office (SCMO), Economic Planning Unit and the Social & Economic Research Initiative (SERI) to assess Malaysia's digital talent.

**Top 3 barriers to adequate and sufficient talent**

01. Skills gaps in local labour market
02. Inability to attract specialised talent
03. Insufficient qualified candidates with soft skills

**Top 2 useful tools in meeting digital talent needs**

01. Implementing internal training
02. Improving compensation packages

> 50% do not use Government resources in their digital skilling.

Lack of awareness is the number one reason for not using Government resources.

MDEC is the top used Government resource (32% of those that use Government resources).

Only ~4.8% of respondents’ digital talent needs are fully met, on average, across each of the emerging technologies.

**Most in-demand Digital Skills**

1. Big Data Analytics
2. Digital Marketing
3. Artificial Intelligence

**Most in-demand Soft Skills**

1. Critical Thinking & Analysis
2. Analytical Thinking & Innovation
3. Collaboration

**Top 5 tech roles vacant >3 months**

- Big Data Analytics: 53%
- Data Science: 48%
- Cybersecurity: 33%
- Artificial Intelligence: 30%
- Cloud Computing: 25%

**Recommendations**

- Training opportunities for all citizens
- Centralization of government efforts
- Clarity on funding for skills & tech.dev.
- Transformation of education
- Tech Visa & rethink pipeline

* Sector breakdown of respondents*

- ICT: 46%
- Financial & Insurance: 13%
- Professional services: 7%
- Healthcare: 7%
- Transport & Logistics: 6%
- Wholesale & Retail: 6%
- Manufacturing: 6%
- Others: 12%
02 | Demographics of respondents

Talent is a key element under the MyDIGITAL initiative to transform Malaysia into a digitally enabled and technology-driven high-income nation, and a regional leader in the digital economy.

The Strategic Change Management Office (SCMO) at the Economic Planning Unit, with the support of the Social & Economic Research Initiative (SERI), conducted a survey to seek input on efforts to build agile and competent digital talent - a strategic thrust under the Malaysia Digital Economy Blueprint.

The Digital Talent Survey had 70 respondents across Micro, Small and Medium Enterprises (MSMEs) and large companies, representing a variety of sectors. 46% of companies were from the technology sector, 13% from the Financial & Insurance sector, and 7% from both Healthcare and Professional Services.

Table 1: Breakdown of respondent firms by sector and size.

The cumulative sector breakdown exceeds 100% due to rounding up of the percentages.
03 | Barriers to adequate and sufficient talent

Respondents identified the top two barriers to having adequate and sufficient talent as:

1. Skills gaps in the local labour market.
2. Inability to attract specialized talent.

Some of the other challenges identified in this area included:

I. Costs:

Respondents identified the costs of digitalisation or adoption of latest technologies as a challenge – and this included the costs of the talent required to adopt technology, given the competitiveness of the labour market for such talent:

- Despite ability to source local talent, operational expenditure is impacted by the need to offer salary structures that can compete with big organisations.
- Catching up with technology can be costly to businesses.

II. Quality of talent in local labour market:

Respondents elaborated on the local labour market as being unable to furnish talent that had the sufficient level or type of skill, given the availability of foreign talent options.
III. Adequacy of the ecosystem:

Broader factors affecting the ecosystem of talent were also identified as contributing to the barriers that the respondents faced in securing talent. These included the need for larger companies to contribute to growing talent through engaging local companies for projects and improving higher education to meet employers’ needs:

- Large companies do not have sufficient confidence and do not provide enough support to local companies through awarding projects to them to breed in-country talents.
- Need for more progressive policy in higher education.

The gap between the entry level skills and advanced skills required for work to be done is too big.

Continued dependency on foreign talent for IT roles.

Very difficult to get highly skilled security professionals.

The ecosystem is insufficiently conducive to attract talent; examples of conducive factors include a more straightforward Employment Pass process, more renowned tech companies investing in Malaysia, more tech incubation initiatives and partnership with private sectors and a tech education curriculum aligned to industries’ needs and requirements.

IV. Ability to get employment passes:

Respondents had mixed responses on this, with observations that for companies with MSC status, there were no real issues with Employment Passes but also that greater flexibility in visas is required.
04 Significant factors in meeting digital talent needs

Respondents identified the top factor affecting ability to meet talent needs as insufficient qualified candidates with satisfactory soft skills, and insufficient candidates with necessary academic / technical qualifications being the second most significant factor.

Factors affecting ability to meet needs

- Insufficient qualified candidates with satisfactory soft skills: 73%
- Insufficient candidates with necessary academic technical qualifications: 70%
- Insufficient budget to hire or retain suitable staff (cannot meet pay expectations/competition): 67%
- Insufficient data to anticipate future demand for skills: 66%

Key segments to upskill

Respondents recognised all segments of an organisation as being generally important to upskill for digital needs, but the most important segments to upskill were identified as Senior and Middle Management.

Segment with highest impact for digital upskilling

- Senior Management: 92%
- Middle Management: 92%
- Junior Management: 89%
- Directors / C-suite: 88%
- Senior and junior executive staff: 88%
- Non-executive staff: 78%
Respondents identified the top factor affecting ability to meet talent needs as insufficient qualified candidates with satisfactory soft skills, and insufficient candidates with necessary academic/technical qualifications being the second most significant factor.

Respondents were also asked if they had any other input on what was important/effective/useful in meeting their needs for digital talent. Responses highlighted the need for talents themselves to embrace continuous learning for their skills to remain relevant, as well as reiterated that physical proximity was less important in a digital world:

The top 3 most useful tools or actions in meeting needs for digital talent were identified as:

1. Internal training.
2. Improving compensation packages.
3. Training by external providers.

Most useful tools/actions in digital upskilling:

- Implementing internal training: 85%
- Improving compensation packages: 85%
- Training by external providers: 79%
- Working with educational institutions: 73%
- Outsourcing to external providers: 65%
- Training by Government agencies/ministries: 62%
- Relocating operations close to talent pools: 60%

International travel restrictions under COVID lockdown are more significant constraints than location of talent. Companies will tend to employ international talent as physical location loses significance and working from anywhere becomes a new norm.

Digital enablement means physical location of resources becomes less significant and instead availability and access are critical.
More than half the respondents did not use any Government resources in their digital skilling. Reasons given were:

![Bar chart showing reasons for not using Government resources in digital upskilling.]

- Not aware of the training/support: 57%
- Training/support is not relevant: 39%
- Quality/standard of training/support is not satisfactory: 39%
- Not necessary for my business: 19%
- Cost of training or meeting logistics needs: 10%
- Not able to attend due to logistics (location of training...): 8%

Of respondents that did use Government resources for digital skilling, the top skilling resource used was the Malaysia Digital Economy Corporation (MDEC).

![Pie chart showing usage by agency/department, of respondents who do use Government resources.]

- Malaysia Digital Economy Corporation (MDEC): 32%
- Department of Skills Development: 5%
- Ministry of Human Resources: 8%
- Malaysia External Trade Development Corporation: 8%
- Malaysian Investment Development Authority (MIDA): 8%

Respondents varied in their responses when asked for further input, with larger corporations indicating they did not tend to use Government resources as much while others appreciated services of MDEC, SME Corp and MATRADE. Comments included:

"Needs to be better coordinated and not duplicated among Government agencies."
Respondents were also invited to share any other suggestions on initiatives or support that would have meaningful impact, and these included:

I. **Financial incentives** to be provided to encourage and support companies in adopting technology and accelerating upskilling:

- Incentives or subsidies to encourage enterprises to adopt digital technologies.
- Continuation of subsidies for upskilling and training.
- Learning credits on global digital learning platforms, such as edX and Coursera.

**Prioritisation for Reskilling / Upskilling**

Respondents also ranked the significance of the following initiatives in improving the ability of senior management to advance their company's competitiveness in the digital economy as follows:

1. Providing **appropriate resources for online training courses and content for directors/senior management** (79%)
2. Encouraging **digital skilling for directors/senior management through industry associations** (e.g. directors’ association) (74%)
3. Mandating **digital skilling for directors/senior management through regulation** (e.g. Bursa, director’s training) (70%)

**Further suggestions**

Respondents were also invited to share any other suggestions on initiatives or support that would have meaningful impact, and these included:
II. Culture/ education/ awareness initiatives to create an environment that motivates and galvanises the corporate community to prioritise digital upskilling, whether internally or externally. Examples included:

- Initiatives to build conscience among business leaders and enable recognition that protecting rights of their users and workers have significant benefits for their businesses.

- Organisations should have at least one board member who is a technologist with Digital experience.

- Corporate vision, business model and internal learning incentives that are aligned.

Local case studies on successful digital initiatives in the local corporate sector, to be developed by universities, to be made available digitally and free as resources for others. These should also address how digital adoption improves the bottom-line, to improve buy-in and drive the digitalisation of MSMEs.

III. Improvement of Skilling Content to enable companies to meet specific needs was another theme that emerged from respondents, that indicated that current content can be enhanced to be able to meet the particular needs of an industry or business:

- More specific training e.g., cyber security and privacy for Directors, as it may have bigger impact to the organization.

- To include content on financial literacy skills in relation to digital adoption.

- Improved development of training courses / skills needs for business leaders, with pathways based on their respective industries and business direction.
06 Emerging Jobs and Skills

This section will cover digital skills, soft skills, emerging technologies, gig work, and hiring for tech roles.

Digital skills

Respondents were asked to identify which digital skills were necessary for their organisation. Big Data Analytics and Digital Marketing were the digital skills most sought after by employers, followed by Artificial Intelligence, Data Science, Cybersecurity, and Cloud Computing.

Most in-demand digital skills

<table>
<thead>
<tr>
<th>Skill</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Data Analytics</td>
<td>77%</td>
</tr>
<tr>
<td>Digital Marketing</td>
<td>77%</td>
</tr>
<tr>
<td>Artificial Intelligence</td>
<td>70%</td>
</tr>
<tr>
<td>Data Science</td>
<td>67%</td>
</tr>
<tr>
<td>Cybersecurity</td>
<td>64%</td>
</tr>
<tr>
<td>Cloud Computing</td>
<td>67%</td>
</tr>
<tr>
<td>Social Media</td>
<td>59%</td>
</tr>
<tr>
<td>E-commerce and digital trade</td>
<td>53%</td>
</tr>
<tr>
<td>Systems Integration</td>
<td>47%</td>
</tr>
<tr>
<td>Development Tools</td>
<td>44%</td>
</tr>
<tr>
<td>Software Development Lifecycle</td>
<td>43%</td>
</tr>
<tr>
<td>Product Marketing</td>
<td>43%</td>
</tr>
<tr>
<td>Web Development</td>
<td>43%</td>
</tr>
<tr>
<td>Information Management</td>
<td>41%</td>
</tr>
<tr>
<td>Data Storage Technologies</td>
<td>40%</td>
</tr>
<tr>
<td>Graphic Design</td>
<td>34%</td>
</tr>
<tr>
<td>Computer Networking</td>
<td>33%</td>
</tr>
<tr>
<td>Human Computer Interaction</td>
<td>31%</td>
</tr>
<tr>
<td>Technical Support</td>
<td>31%</td>
</tr>
<tr>
<td>Content Creation</td>
<td>30%</td>
</tr>
<tr>
<td>Robiotics, industrial automation, drones</td>
<td>27%</td>
</tr>
<tr>
<td>Augmented and virtual reality</td>
<td>24%</td>
</tr>
<tr>
<td>Text, image, and voice processing</td>
<td>21%</td>
</tr>
<tr>
<td>Distributed ledger technology</td>
<td>16%</td>
</tr>
<tr>
<td>Quantum computing</td>
<td>10%</td>
</tr>
<tr>
<td>Operations Research</td>
<td>1%</td>
</tr>
<tr>
<td>Technical Art, a combination of CG &amp; computer science</td>
<td>1%</td>
</tr>
</tbody>
</table>
Respondents were also asked on what soft skills they found most necessary. Critical thinking and analysis, analytical thinking and innovation, and collaboration topped the list of soft skills, followed by English proficiency, and communication. Below are the soft skills required by employers, ordered according to importance indicated by survey respondents:

<table>
<thead>
<tr>
<th>Soft Skills</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical thinking and analysis</td>
<td>90%</td>
</tr>
<tr>
<td>Analytical thinking and innovation</td>
<td>90%</td>
</tr>
<tr>
<td>Collaboration</td>
<td>84%</td>
</tr>
<tr>
<td>English proficiency</td>
<td>84%</td>
</tr>
<tr>
<td>Communication</td>
<td>83%</td>
</tr>
<tr>
<td>Reasoning, problem-solving, and ideation</td>
<td>81%</td>
</tr>
<tr>
<td>Customer centricity</td>
<td>77%</td>
</tr>
<tr>
<td>Leadership</td>
<td>77%</td>
</tr>
<tr>
<td>Complex problem-solving</td>
<td>74%</td>
</tr>
<tr>
<td>Resilience, stress tolerance, and flexibility</td>
<td>73%</td>
</tr>
<tr>
<td>Creativity, originality, and initiative</td>
<td>69%</td>
</tr>
<tr>
<td>Passion for learning</td>
<td>68%</td>
</tr>
<tr>
<td>Active learning and learning strategies</td>
<td>68%</td>
</tr>
<tr>
<td>Self-management</td>
<td>62%</td>
</tr>
<tr>
<td>Management and communication</td>
<td>62%</td>
</tr>
<tr>
<td>Persuasion and negotiation</td>
<td>62%</td>
</tr>
</tbody>
</table>

According to the World Economic Forum\(^2\), the following are the technologies likely to be adopted by 2025:

<table>
<thead>
<tr>
<th>Emerging Technologies</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloud Computing</td>
<td></td>
</tr>
<tr>
<td>Big Data Analytics</td>
<td></td>
</tr>
<tr>
<td>Internet of Things/Connected Devices</td>
<td></td>
</tr>
<tr>
<td>Encryption and Cybersecurity</td>
<td></td>
</tr>
<tr>
<td>Artificial Intelligence</td>
<td></td>
</tr>
<tr>
<td>Text, image and voice processing</td>
<td></td>
</tr>
<tr>
<td>Robots, non-humanoid (Industrial automation, drones)</td>
<td></td>
</tr>
<tr>
<td>Augmented and virtual reality</td>
<td></td>
</tr>
<tr>
<td>E-commerce and digital trade</td>
<td></td>
</tr>
<tr>
<td>Distributed ledger technology</td>
<td></td>
</tr>
<tr>
<td>3D and 4D printing and modelling</td>
<td></td>
</tr>
<tr>
<td>Quantum Computing</td>
<td></td>
</tr>
</tbody>
</table>

Survey respondents were asked to indicate how well the labour market is able to serve their existing digital talent needs in the above technologies.

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\(^2\) WEF_Future_of_Jobs_2020.pdf (weforum.org)
On average, only 4.8% of respondents felt that the existing labour market is able to fully meet their digital talent needs. Even among the top 5 technologies for which the labour market was able to meet talent needs, the degree to which the needs were met was low, with e-commerce and digital trade topping the list at 58%.

### Ability of labour market to meet needs

<table>
<thead>
<tr>
<th>Technology</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-commerce and digital trade</td>
<td>58%</td>
</tr>
<tr>
<td>System Integration</td>
<td>55%</td>
</tr>
<tr>
<td>Cloud computing</td>
<td>53%</td>
</tr>
<tr>
<td>Internet of things / connected devices</td>
<td>53%</td>
</tr>
<tr>
<td>Encryption and cyber security</td>
<td>49%</td>
</tr>
<tr>
<td>Big Data Analysis</td>
<td>48%</td>
</tr>
<tr>
<td>Artificial intelligence</td>
<td>42%</td>
</tr>
<tr>
<td>Text, image and voice processing</td>
<td>42%</td>
</tr>
<tr>
<td>Distributed ledger technology</td>
<td>37%</td>
</tr>
<tr>
<td>3D and 4D printing and modelling</td>
<td>36%</td>
</tr>
<tr>
<td>Augmented and virtual reality</td>
<td>34%</td>
</tr>
<tr>
<td>Robots, non-humanoid</td>
<td>33%</td>
</tr>
<tr>
<td>Biotechnology</td>
<td>33%</td>
</tr>
<tr>
<td>Quantum Computing</td>
<td>31%</td>
</tr>
</tbody>
</table>

With the global gig economy estimated to contribute US$2.7 trillion, or 2% of the global economy by 2025, the Digital Talent Survey sought to understand the extent of part-time or gig workers’ involvement in achieving an organisation’s digital talent needs.

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5 Respondents who identified their need as fully met, averaged across the various technologies. Technology options included: cloud computing, big data analytics, internet of things/connected devices, encryption and cyber security, artificial intelligence, text, image & voice processing, robots & non-humanoids, augmented & virtual reality, e-commerce & digital trade, distributed ledger technology, 3D/4D printing & modelling, quantum computing, systems integration.

4 Average of scores awarded across all respondents expressed as a percentage of maximum potential score for each technology

### Percentage of respondents which do not use freelancers, gig workers, or contractors to meet their digital talent needs

<table>
<thead>
<tr>
<th>Technology</th>
<th>Percentage</th>
<th>Bar Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>3D / 4D printing and modelling</td>
<td>76%</td>
<td>76%</td>
</tr>
<tr>
<td>Quantum computing</td>
<td>70%</td>
<td>70%</td>
</tr>
<tr>
<td>Robots, non-humanoid</td>
<td>64%</td>
<td>64%</td>
</tr>
<tr>
<td>Augmented and virtual reality</td>
<td>62%</td>
<td>62%</td>
</tr>
<tr>
<td>Distributed ledger technology</td>
<td>62%</td>
<td>62%</td>
</tr>
<tr>
<td>Text, image and voice processing</td>
<td>56%</td>
<td>56%</td>
</tr>
<tr>
<td>Artificial Intelligence</td>
<td>53%</td>
<td>53%</td>
</tr>
<tr>
<td>Encryption and cyber security</td>
<td>53%</td>
<td>53%</td>
</tr>
<tr>
<td>Internet of things / connected devices</td>
<td>48%</td>
<td>48%</td>
</tr>
<tr>
<td>Cloud computing</td>
<td>46%</td>
<td>46%</td>
</tr>
<tr>
<td>Big data analytics</td>
<td>44%</td>
<td>44%</td>
</tr>
<tr>
<td>E-commerce and digital trade</td>
<td>44%</td>
<td>44%</td>
</tr>
<tr>
<td>Systems Integration</td>
<td>39%</td>
<td>39%</td>
</tr>
</tbody>
</table>

*Note: The cumulative sector breakdown exceeds 100% due to rounding up of the percentages.*

### Percentage of respondents which only use freelancers, gig workers, part-timers, or contractors to meet their digital talent needs

<table>
<thead>
<tr>
<th>Technology</th>
<th>Percentage</th>
<th>Bar Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Integration</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Internet of things / connected devices</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Augmented and virtual reality</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>E-commerce and digital trade</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Artificial intelligence</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Encryption and cyber security</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Robots, non-humanoid</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>3D and 4D printing and modelling</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Text, image and voice processing</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Big Data Analysis</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Quantum Computing</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Cloud computing</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Distributed ledger technology</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

*Note: The cumulative sector breakdown exceeds 100% due to rounding up of the percentages.*
On average, across all technologies, 55% of survey respondents do not engage part-time workers or contractors at all\(^6\), while 4% exclusively engage contractors, freelancers or part-time workers for the above digital talent functions\(^7\). The remaining 41% use a mixture of talent resources ranging from freelance to

**Hiring for Tech Roles**

In Southeast Asia, nearly 70% of tech hiring managers say it takes more than three months to fill an open tech position on their team\(^8\).

According to survey respondents, the following is the breakdown of which tech roles tend toward remaining vacant for more than three months\(^9\).

<table>
<thead>
<tr>
<th>Tech roles vacant more than 3 months</th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Data Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>53%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>48%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cybersecurity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>33%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Artificial intelligence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>30%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cloud computing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-commerce and digital trade</td>
<td>18%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Integration</td>
<td>10%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Web Development</td>
<td>15%</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Software Development Lifecycle</td>
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<td>Product Marketing</td>
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<td>Robots, industrial automation, drones</td>
<td>13%</td>
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<td>Distributed ledger technology</td>
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<td>Quantum Computing</td>
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<td>Development Tools</td>
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<td>Data Storage Technology</td>
<td>10%</td>
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\(^6\) 55% of respondents provided a score of 1 across all technologies, indicating that they do not use freelancers, part-timers, or contractors to meet their digital talent needs.

\(^7\) Only 4% of respondents provided a score of 5 across all technologies, indicating that they only use freelancers, part-timers, or contractors to meet their digital talent needs.

\(^8\) Robert Walters SEA | Five Lessons in Tackling the Tech Talent Shortage [robertwaltersgroup.com]

\(^9\) Average score represented as a percentage of the maximum total score.
The reasons for the prolonged vacancies include challenges surrounding the talent ecosystem, skills, budget, and immigration. Below are comments from survey respondents:

Scarcity of talent

Lack of capable local skills that are affordable

Lack of highly skilled local talents with experience

Competition for foreign talent

Pay inflation

Visa processing delays

Talents from India, Indonesia, Bangladesh seem to be more suitable and provide better dollar value against required skillsets

Low budget allocation to attract quality talents

Lack of experience, fit to job

Unable to match salary offered by larger technology company

Not much demand and understanding within the IHLs - particularly for emerging areas such as game development

Limited skills in market

It’s impossible to hire experienced talents for SMEs. We have resorted hiring freelancers through gig-work platforms... Talent is often sourced from India, Pakistan and Nepal. It can be a hit or miss scenario, but companies gain access to a much bigger talent pool, with high commitment in relation to task completion.
While digital transformation cannot take place without technology, meaningful digital transformation requires a combination of technology, data, process, and people (behaviour, mindset, organisational change, and culture).

According to Harvard Business Review, most digital technologies provide possibilities for increased efficiency and customer satisfaction; however, if people lack the right mindset to change and existing organizational practices are flawed, digital transformation will simply digitalise and magnify those flaws.\(^\text{10}\)

Digital transformation managers are in charge of leading the development and execution of an organization’s digital transformation strategy. They align teams, determine business requirements, and look for technology capabilities within the internal infrastructure as a vital component of the business. Respondents adopt a variety of means to achieve transformation with a clear preference for majority upskilling existing managers to equip them for digital transformation.

\(^{10}\) Digital Transformation Is Not About Technology ([hbr.org](https://hbr.org))
Parties/Orgs Best Placed to Address Digital Talent Needs

The survey asked respondents to indicate the parties which are best placed to act to address digital talent needs. Responses emphasise the need for:

1. Multi-stakeholder collaboration.
2. Public-private partnerships.
3. Recognition of massive open online courses (MOOCs).
4. Transformation of existing education and talent development efforts.

Respondents identified key government stakeholders as the Ministry of Human Resources, MDEC, HRD Corp, MATRADE, MIDA, Ministry of Entrepreneur Development and Cooperatives, Ministry of Higher Education, and the Ministry of Education.

Below are some of the responses provided to the question ‘Which parties are best placed to act to address digital talent needs?’:

Need for private sector collaboration

- Government agencies in collaboration with private organizations.
- Government stakeholders, educational providers, employers, and industry all need to come together.
- The private sector with support from the government in collaboration with civil society.
- Collaboration between industry and institutions of higher learning (IHLs) based on an adaptive and flexible model. Recognition of MOOCs such as Coursera and Udemy.
- Complete ecosystem consisting of companies, universities, specialised training academies and government funding bodies working in partnership with each other.

Need for increased attention on digital skills

- Ministry of Education and Ministry of Higher Education must look into digital skills can be embedded into mainstream curriculum. Perhaps we can begin with developing digital ready educators, taking advantage of the current situation to drive higher technology usage penetration amongst educators.
- Management to have more awareness on the importance of digitalisation in the organisation and cascade down and across the planning on developing/acquiring the digital talents needs.
09 Recommendations

This section sets out the recommendations based on comments and feedback received from survey respondents. In summary, they are:

i. **Improve the talent pipeline** with reskilling and upskilling

ii. **Greater engagement with the private sector** and all stakeholders, and better clarity and access to resources as well as **leverage on Public-Private Partnerships**.

iii. **Education and training**:
   1. Transform education from as early as pre-school, to respond to needs.
   2. **Improve graduate readiness**, e.g. more internships, regular industry engagement.
   3. Uplift the status of **technical vocational education** and training as a solution to address talent needs in line with technological innovation.
   4. Evaluate relevance of curricula and redefine the role of the Malaysian Qualifications Agency (MQA).

iv. **Transformation of Human Resources**.

v. **Develop Malaysia as a Digital Talent Hub**.

A more detailed analysis of the recommendations provided through the survey is set out below:

**Improve the talent pipeline with reskilling and upskilling**

Recommendations:

- Implement a program to train specialized high demand digital skills for interested individuals and provide priority hiring opportunities for these candidates.

- Close collaboration with industry and enable reskilled and upskilled talents to be channelled directly to the industry.

*The war for talent is a gap that will never be filled. Market forces will dictate the way talent is distributed. Supply should be shaped by talent that is developed to be flexible and adaptable in learning new skills and having strong control of soft skills.*
Understand private sector challenges

Recommendations:

- Private sector, especially micro, small, and medium enterprises (MSMEs) require more clarity and access to resources and funding for them to train employees. For example, increasing ease of access to information via the consolidation and centralisation of government resources.

- Survey respondents also requested that government regularly engages the private sector to better understand the needs and challenges faced. Cost factors must also be understood, as this greatly impacts hiring ability, particularly for digital talents.

- The Malaysia Digital Economy Corporation (MDEC) Work in Tech (MyWIT) program is one good example of the government's effort to assist the private sector, as one survey respondent shares below:

  "The current Work In Tech (MyWIT) program from MDEC is very beneficial. It is helping to subsidise our hiring cost, to acquire the right digital talents we need. This support is mostly needed for a period of six months to a year. From there onwards, the results of our digital product sales, increase in efficiency, and higher billings due to increased value will allow us to retain and manage the cost on our own."

Transformation of Education – from Pre-school to Higher Education

Recommendations:

- The education system needs to respond to the requirements of the industry so that we have the right talent for the specific skills and roles.

- To relook and review our education system from as early as pre-school. In addition to tertiary education, our primary and secondary syllabi must advance and keep up with the changing economy.

- Rethink higher education strategy:
  1. Higher education system to produce industry-ready individuals by offering relevant courses based on industry needs.
  2. Academic programs in tertiary educational organizations must produce graduates that meet industry demand with necessary skills.

  "Revamping our education system – Firstly, focus on English. Most digital technology materials are in English, and we cannot develop global digital talents without English proficiency.

  Secondly, the assessments in universities are often based on memory and regurgitation. In today’s world this is irrelevant. Problem solving, critical thinking, building resource and reference banks, and structured thinking and communication are critical."
Graduate industry-readiness

Recommendations:

- More internships in technology companies
- Regular engagement with industry to understand the gaps and work towards a shared timeline to develop talent for industry

Technical Vocational Education and Training

Recommendations:

- Develop more technical vocational schools and elevate the reputation of vocational training to be on par with universities.
- Recognise that being hands on and technically strong is equally valuable to an academic pathway.
- Learning and earning – vocational training enjoys an excellent reputation in Germany. The emphasis is on vocational education combined with academic studies and on-the-job training for apprentices.

The apprenticeship route is a genuinely respected and valued alternative to college or university, in that it is shown to increase productivity and profitability of companies that take part in such programmes.

Malaysia could consider a similar approach, and in line with this, we must ensure that technical vocational graduates have access to high quality employment, economic opportunities, and social protection.

Transformation of Human Resources

Recommendations:

- Human Resources Departments need to do more. E.g. active skills development which ensures all levels of employees have access to talent development.
- Data-driven decisions – Match future digital jobs and skills required, look at sources of talent and ensure continuous reskilling.
- Full support and scholarships for those seeking to be trained in digital skills – This should include those who are early-career, mid-career, and at risk of being displaced.
- More technical trainings which are relevant to industry needs and aligned to digital transformation.

Public-Private Partnerships

Recommendations:

- Education institutions to develop new talent, industry players to upskill existing talent, and government agencies to drive talent programs and position Malaysia as the key location for ASEAN digital talent to meet industry demand for capable digital talent.
The education system needs to be tailormade to meet the requirement of the industry so that we have the right talent for specific skills and jobs.

- Constant Engagement with industry to understand the gaps and also work towards a shared timeline to create talent for industry.
- Co-creation and collaboration for industry to train employees in specific focus areas, half funded by industry and government for at least 24 months.

Malaysia as a Digital Talent Hub

As long as there exist opportunities for local companies to thrive, companies will undertake the training themselves to better align with industry requirements. As curation by government agencies is sometimes not at par with industry requirements, training budgets should be democratised. Offer companies an allocation of training credits for them to utilize within the open market. A model to adopt should be similar to how the SME Digitalization grant is deployed – This is a good model for the private and public sector to collaborate without any preferential treatment.

Recommendations:

- Introduce a tech talent visa to bring in high-skilled foreign talent from around the world.
- Upskilling of talent or importing talent into the country.
- Develop a better gig economy model for the private sector, to enable private sector and digital talent to benefit from flexible working arrangements. This must be paired with appropriate social safety nets.
- Investment into the development of digital talent and a digital hub alongside digital infrastructure. Malaysian made products and talents must be given priority to be pushed into the digital global market.
- Consider the relevance of existing agencies, particularly the need for the Malaysian Qualifications Agency to transform in line with the needs of industry. Expedited accreditation of curricula fit for the digital era including short courses, online courses, and massive open online courses (MOOCs) will accelerate the transformation of post-secondary and higher education.

Employers may resort to hiring talent from abroad, without having to relocate them to Malaysia. To make Malaysian digital talent world class, it is critical that we look at our talent pipe, our universities, to rethink curricula and redefine the role of the Malaysian Qualifications Agency (MQA).
10 | Best practices, policies and enablers from other jurisdictions which may work well in the Malaysian context

This section sets out the best practices and policies from which we can learn, based on comments and feedback received from survey respondents. In summary, they are to create:

i. Government support.
ii. Clarity on Technology Funding Processes.
iii. Enable training opportunities for everyone.
iv. Focus on Execution.
v. Consolidation of efforts.
vi. Structural reforms.

A more detailed analysis is set out below:

1. Government Support

According to survey respondents:

1. Government Special Grants, Subsidies, Tax Relief will encourage digital talent development.
2. Micro, small, and medium enterprises (MSMEs) face many limitations and require the government’s full support in order to sustain themselves, especially in the green technology business.
3. State support, e.g. in Germany, a key pillar of support is provided by the Fraunhofer-Gesellschaft, a part publicly funded research organization that provides applied science for companies that would otherwise find the cost prohibitive.

As a manufacturing company, the cost to transform our current facility with digital technology will require large financial investment due to the cost of the system, and customised automation for selected processes. This will increase our production cost and will require a long period for return on investment (ROI). Hiring of staff with the capability to maintain and troubleshoot the system is also expensive as most digital talents opt to be hired by multinational companies. For that matter, if government can consider providing grants or other incentives, this will help companies like ours adapt to digitalization.
2. Clarity on Technology Funding Processes

According to survey respondents:

1. Technology funding is critical to enable companies to acquire funding for skills and technology development.
2. Current grant processes are very opaque.
3. More transparent funding mechanisms will propel Malaysia forward.

3. Develop Local Digital Talent

Survey respondents suggested that:

1. Malaysia looks to India and China as examples for how they have developed talent with digital skills.
2. Local GLCs and government entities must prioritise organisations which involve local technology players, directly or within their ecosystem. This will develop local capability.

4. Continuous Learning

Survey respondents made the following recommendations:

1. Employees should be empowered to take ownership of their own skills development with access to advisors as they move up to different roles. Singapore has a good model on SkillsFuture and the UK has Skillsets UK.
2. Enable training opportunities for all, regardless of age, background, qualification, or employment status.

5. Strengthen Malaysia’s Digital Talent Brand

According to survey respondents:

While Singapore's talent strategy has been well recognised, the Malaysian digital talent brand needs to be strengthened.

6. Focus on Execution

According to survey respondents:

While Malaysia is well-known for having the best white papers, strategic roadmaps and blueprints, we can do more to improve on execution and operationalisation of these plans. A democratised model is best.

Let the industry players take the lead and run the show as they know what are needed and to be executed at the right timing. Government and its agencies to act as the backbone that supports all initiatives without red tape and complicated processes.
7. Consolidation of efforts

Survey respondents suggested the following:

Centralisation of government efforts to build digital skills. One agency, one portal, covering all the professional qualifications e.g. AWS certificates, Microsoft certificates.

8. Genuine desire to work together for Malaysia's future

Survey respondents suggested that:

Government agencies must work across silos and ensure alignment to industry and other stakeholders within the talent ecosystem.

“The [Government] disconnect from the industry results in poor pipeline development leading to graduates with unusable skill sets. Work with global companies and set high standards.”

9. Structural reforms

According to survey respondents, we should:

- Reduce the number of low-skilled migrant workers and wean companies off foreign labour.

- Leverage the macro trend of permanent remote working to attract and bring in the best tech talent from around the world. This will make Malaysia’s labour force more global and competitive.