

DUBAI DIGITAL SKILLS SURVEY 2022-2023



“To transform the Emirate of Dubai into a strategic hub for digital talent to boost the digital economy”

**His Highness Sheikh
Mohammed bin
Rashid Al Maktoum**

Vice-President and Prime
Minister of the UAE and
Ruler of Dubai



Foreword>>>>

During the early 1800s, the 2nd Industrial Revolution (Electricity Revolution) had invaded Western societies with sweeping changes. The most impacted were production lines which became more automated, moving many people to the unemployment market.

Many workers vented their anger by smashing machines, claiming that the disruptive technology would deprive them of their livelihood. They were called Luddites, a term used today to describe those who lag in technology and digital skills.

Luddites needed the willingness to accept change and adapt to it, and institutions had to dismiss people's ambiguity about the future. Institutions had to highlight the vast prospects and opportunities that new technologies would bring.

The Luddites' children, who adapted to the new skills, led the 2nd Industrial Revolution and built prosperous societies. Today, it is the people with digital skills who are leading the way into the future.

This story sums up the wisdom behind such a report in your hands. It is a factual report, drawing on the feedback of those concerned, and illuminating some gaps we can take as guidance for the future.

For example, the report states that top digital skill gaps in the next two years would be in

the areas of Software & Applications, Data & AI, and Cybersecurity. It also states that there is a noticeable digital skills gap in Dubai, particularly in the areas of Data & AI, and Cybersecurity.

The findings of this report will be of interest to all individuals and institutions, in the public and the private sector. Such a report is also necessary for Digital Dubai to transform the Emirate of Dubai into a strategic hub for digital talent to boost the digital economy.

I thank all our partners who have supported in bringing this report to life, and I hope it acts as a guide for all public and private sector entities looking to embrace digital transformation.

H.E. Hamad Obaid Al Mansoori
Director General
Digital Dubai



Executive Summary / Headline Findings

Dubai is rapidly becoming a “globally leading digital city”, as Dubai Government works to boost technological advancements in all economic, social and environmental sectors. As such, digital skills have become an important and strategic factor in Dubai’s rapid progress.

This brief report provides an analysis of the digital skills, employer confidence, employee upskilling, recruitment methods, past year vacancies and recruitment challenges encountered in private and public sectors. Through surveying various private and public sector organizations in Dubai over a period of several months, this report provides an insight into how organizations perceive the digital skills of their employees, how they address skills gaps and which recruitment methods are used. It examines digital skills at the city level including industry level breakdown. Finally, it predicts the future demand for digital skills.

Some key findings include ▼

The ratio of employees with different digital skills have similar distribution between the private and public sectors, where Software & Applications, ICT Technical Support and ICT Infrastructure & Operations are the categories with the most workers.



The most common roles filled in the past 12 months in the private sector were

- | Software & Applications
- | ICT Technical Support
- | ICT Infrastructure & Operations

Top digital skill gaps in the next two years are expected to be in the areas of

- | Software & Applications
- | Data & AI
- | Cybersecurity

Internet job portals is the **most common recruitment channel** being used by →



98%

OF THE EMPLOYERS
feel confident or very confident about the employees' skills

94%

OF PUBLIC ENTITIES
have partnerships with high education institutes

56%

OF COMPANIES
have online courses as their favourite training method

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Background

In recent years, Dubai and UAE have seen remarkable success in international rankings of talent and skills. According to the United Nations (UN) E-Government Survey 2022¹, Dubai held an overall Local Online Service Index (LOSI) ranking of 5th out of 193 cities globally and was ranked 1st in the subindices of “Institutional Framework”, “Content Provision”, and “Service Provision”.

Below table shows additional digital rankings where UAE has performed very favorably and achieved top spots.

PUBLISHER	REPORT NAME	TITLE	RANGE
World Economic Forum (WEF)	Global Competitiveness Report 2020	UAE 2 nd in ICT adoption	out of 126 economies
International Institute for Management Development (IMD)	World Digital Competitiveness Ranking 2022	UAE 3 ^d in the Technology factor	out of 63 economies
		UAE 1 st in Talent under the Knowledge factor	
WILEY	Digital Skills Gap Index 2021	UAE 2 nd in Overall Ranking	out of 134 economies
		UAE 1 st in Government Support	
		UAE 1 st in Supply, Demand & Competitiveness	
		UAE 1 st in ICTs in Government Vision	
		UAE 1 st in Government Success in ICT Promotion	
		UAE 5 th in Ease of Hiring Foreign Labor	
Coursera	Global Skills Report 2022	UAE 1 st in Business Skills	Globally
		UAE 1 st in Skills in the Workforce	in MENA region

As Dubai continues to grow as a major business hub and boosts its digital economy, the need to stay abreast of the latest technologies and digital trends is essential. To better understand the demand, trends, and challenges within the talent market, Digital Dubai undertook its first city-level survey to diagnose the digital skills landscape. This report provides essential information on the current state of digital skills in the public and private sectors, enabling companies and government entities to identify gaps and how to bridge them for optimal success.

Digital talent is key when it comes to fulfilling digital transformation needs in Dubai. The survey identified the current abilities and skills of employees, as well as potential areas of improvement. The survey data will be critical to help policy and decision makers and employers identify additional upskilling and training needs and help academic institutions plan for what

skills they should teach to avoid pertinent labour force shortages in the future.

The survey can also play a key role in helping public and private sector employers to develop a digital skills strategy that takes into account their needs. This ensures that the city’s employees are adequately equipped to meet the demands of the digital economy, providing employers with a competitive edge. Furthermore, it serves as an essential tool for developing a comprehensive digital talent acquisition and retention strategy for employees, allowing public and private sectors to always have the best talent available to them.

Important Note: The digital skills included in this survey are digital / ICT producer skills rather than digital / ICT consumer skills. Digital Dubai measures digital / ICT consumer skills through a separate survey at the Emirate level.

¹ UN E-Government Survey 2022

² Global Competitiveness Report Special Edition 2020: How Countries are Performing on the Road to Recovery

³ World Digital Competitiveness Ranking 2022

⁴ Digital Skills Gap Index 2021

⁵ Global Skills Report 2022

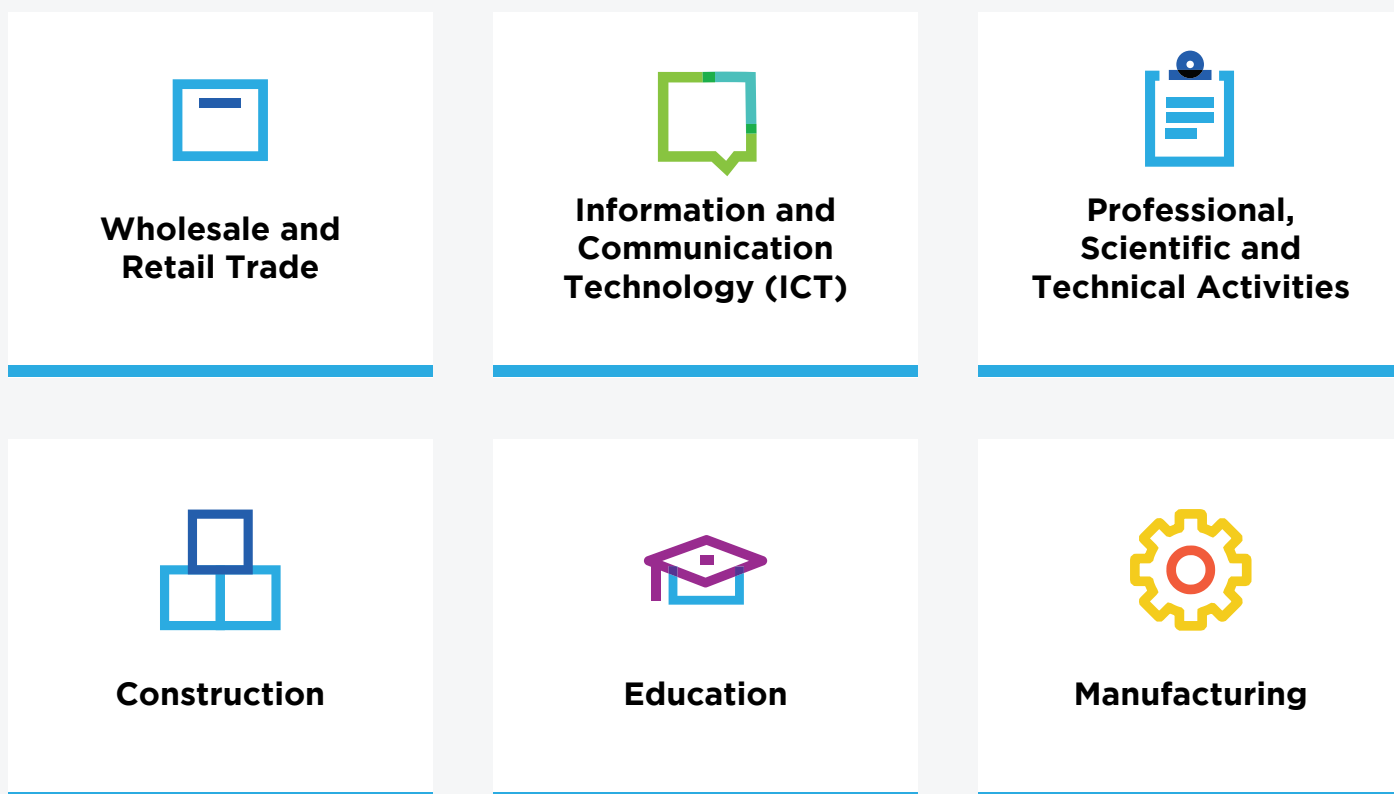
Methodology

The term “Digital Skills” in this report refers to a list of **12 skill categories**¹ as shown below.

- | | | |
|--|--|-------------------------------------|
| 1 ICT Audit | 2 CX / UX | 3 Cybersecurity |
| 4 Data & AI | 5 Digital Marketing | 6 ICT Governance & Planning |
| 7 ICT Infrastructure & Operations | 8 ICT Product /Service Management | 9 ICT Quality & Assurance |
| 10 Software & Applications | 11 ICT Technical Support | 12 ICT Specialist Technology |

The results presented in this report are based on responses from employers in both the public and the private sectors in Dubai.

The survey was conducted encompassing a total of **18 economic activities** as shown below:



¹ This list was formed based on research conducted by Digital Dubai.



**Accommodation
and Food Service
Activities**



**Human Health and
Social Work Activities**



**Financial and
Insurance Activities**



**Real Estate
Activities**



**Administrative and
Support Service
Activities**



**Other Service
Activities**



**Transportation and
Storage**



**Arts, Entertainment
and Recreation**



**Mining and
Quarrying**



**Water Supply,
Waste Management
& Remediation
Activities**



**Electricity, Gas,
Steam and Air
Conditioning Supply**



Dubai Government

The survey was conducted during
THE SECOND HALF OF 2022

through in-person
interviews with

522 PRIVATE
SECTOR
COMPANIES

through an in-depth
online survey with

35 PUBLIC SECTOR
ENTITIES

As a result,
a total of

557 responses
have been collected

representing a scope of approximately
twenty thousand digitally skilled employees
in the labor market of Dubai



Survey Results

Digital Skills Among Current Employment

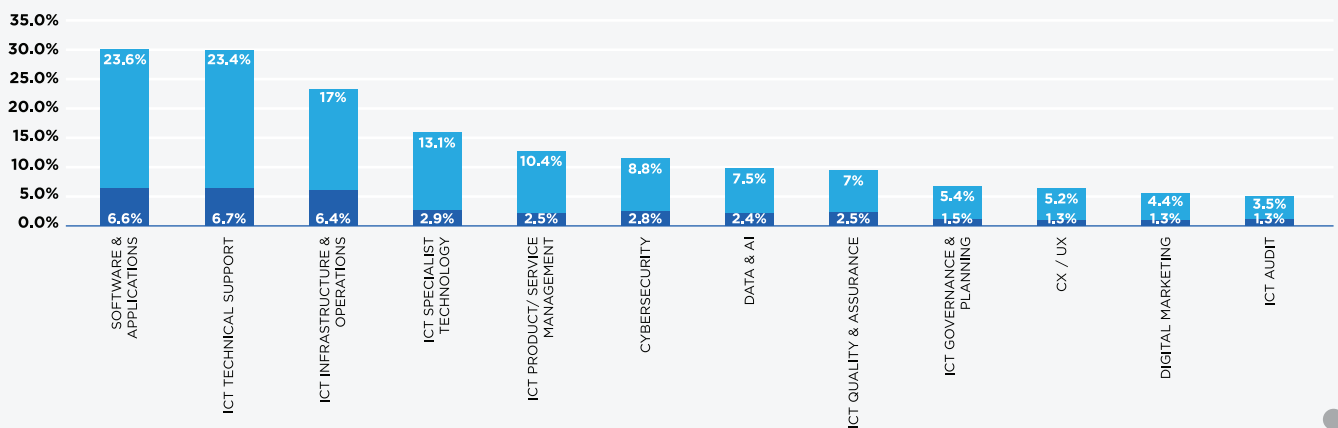
Current skills distribution

The overall distribution of **employees** possessing **different skills** sees similar trends between the private and public sectors. However, the ratio of employees in **senior level positions** appear to be **slightly higher in private sector**.

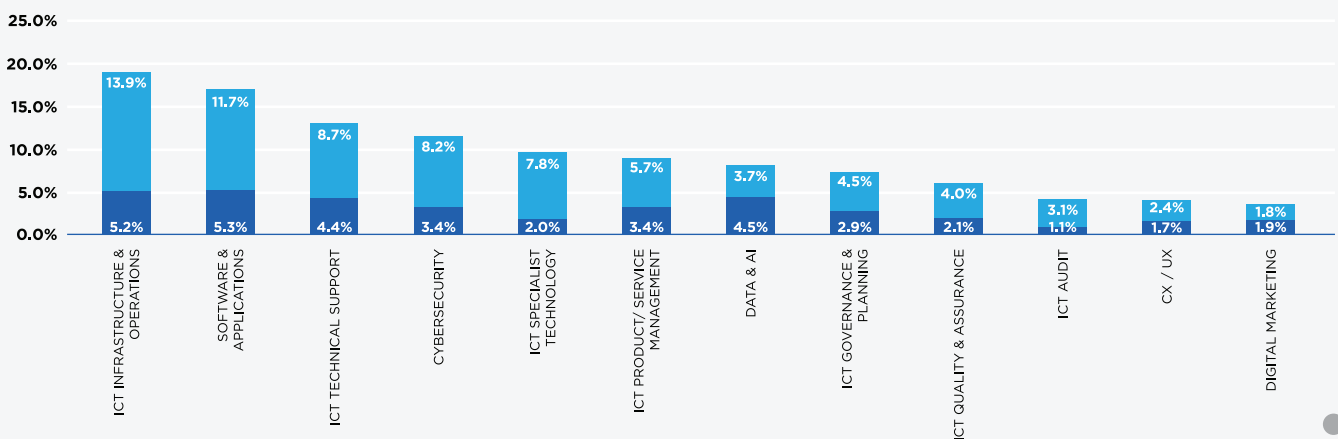
Software & Applications, ICT Technical Support, and ICT Infrastructure and Operations are the most commonly possessed digital skills in the city, whereas ICT Audit, CX / UX and Digital Marketing are the least.

CURRENT ICT EMPLOYEE SKILLS

— PRIVATE SECTOR —



— PUBLIC SECTOR —

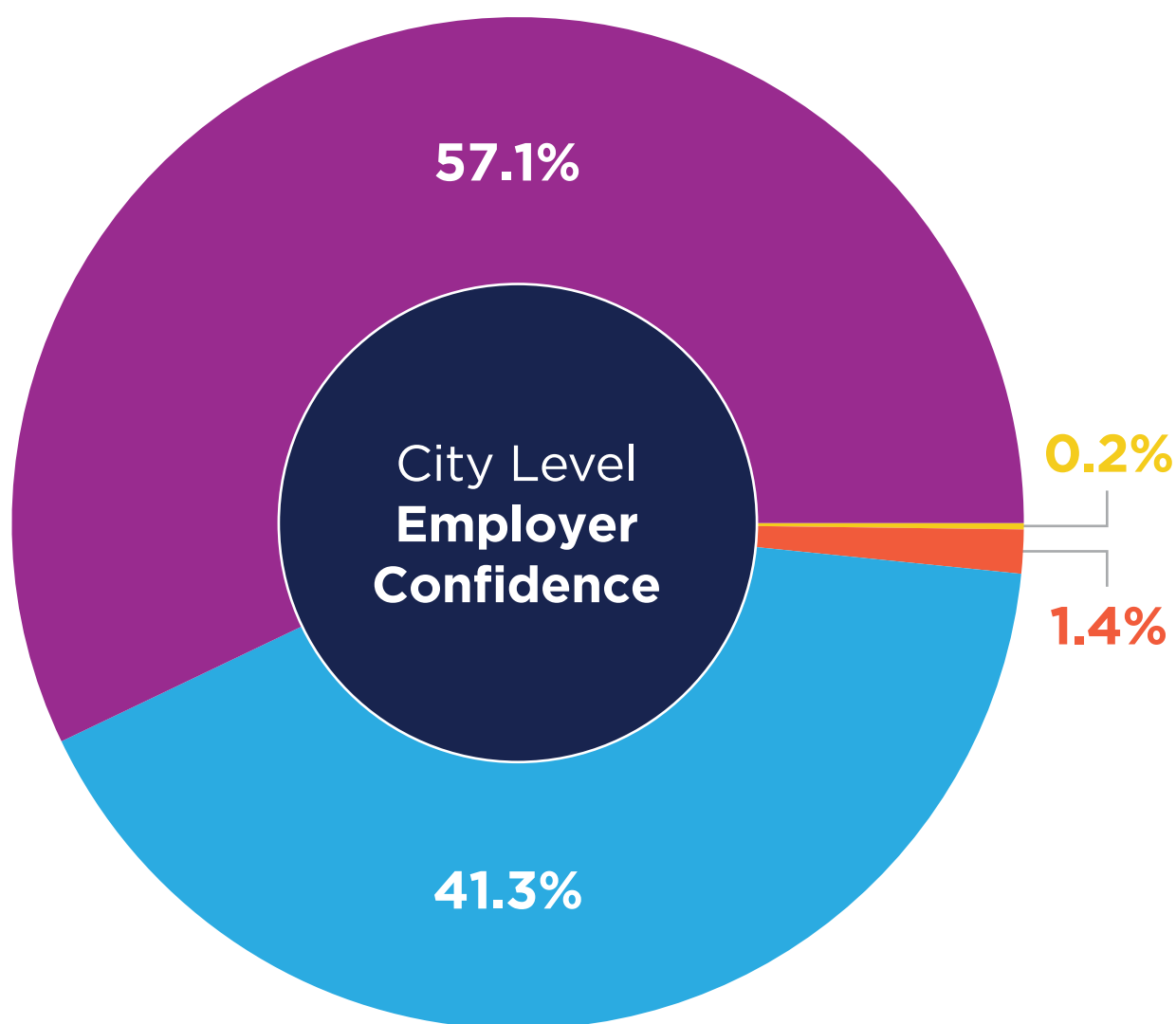


■ ENTRY LEVEL ■ SENIOR LEVEL

Note: The dots on the bottom right corner of the graphs indicate that the summation of data exceeds 100%, as respondents were allowed to make multi-choices when answering this question. This applies to the rest of the report when the dot appears.

Employer Confidence

The survey sample indicates that **98% of employers are confident, or very confident**, in their possession of the requisite skills to achieve success.



Employee Upskilling

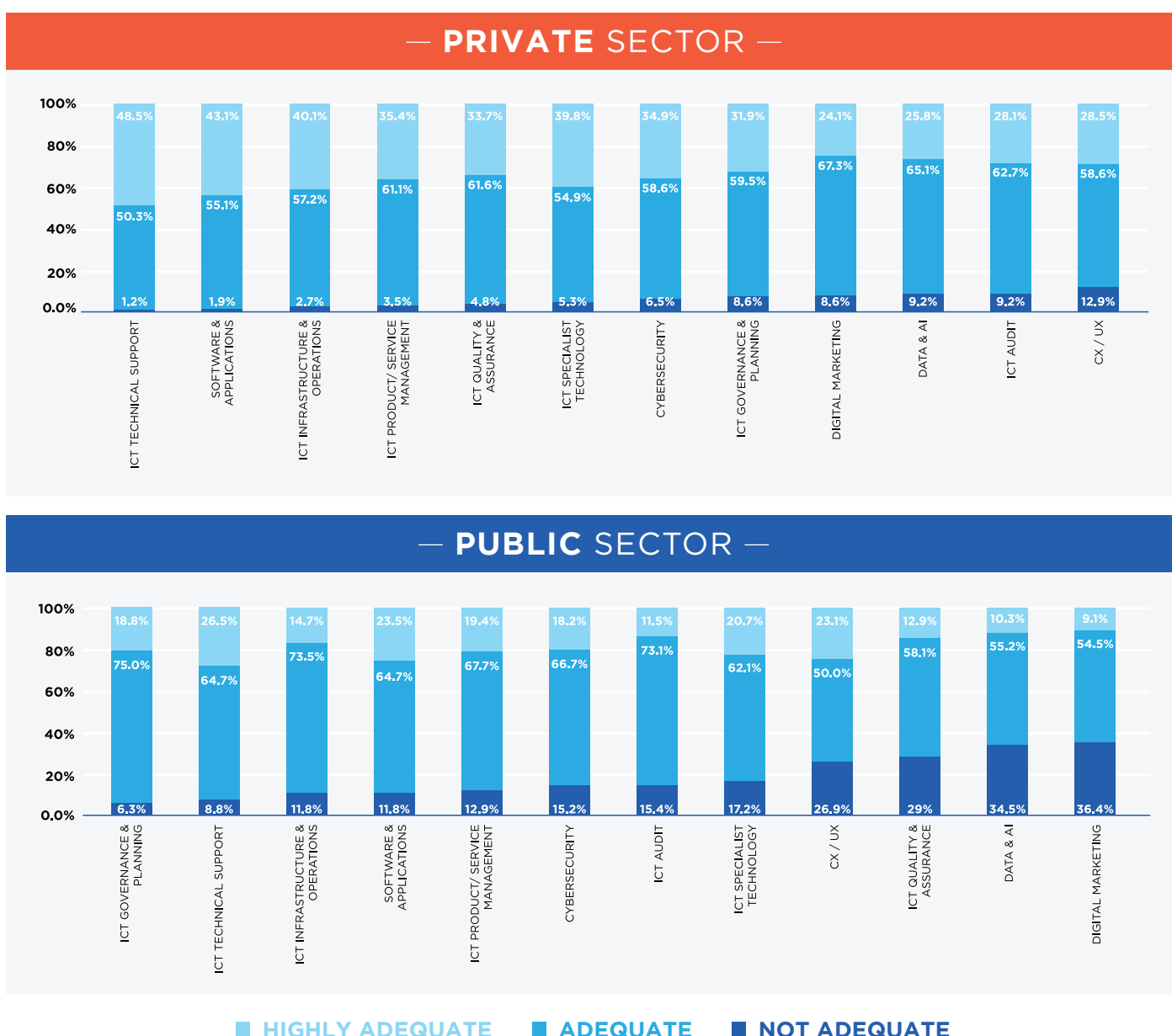
Adequacy by skills

Employers in the **private sector** appear to be very **confident** that their employees have the necessary digital skills as the majority of their **employees' skills** are indicated to be either **"adequate"**, or **"highly adequate"**.

The public sector has a higher percentage of skilled employees in the "adequate" group, however, the skills of Digital Marketing, Data & AI, ICT Quality & Assurance, and CX / UX appear to be the areas of interest for upskilling.

Employees in both sectors have the most adequate skills in Software & Applications, ICT Technical Support, and ICT Infrastructure and Operations, while Digital Marketing, Data & AI, and CX / UX have relatively more room for improvement.

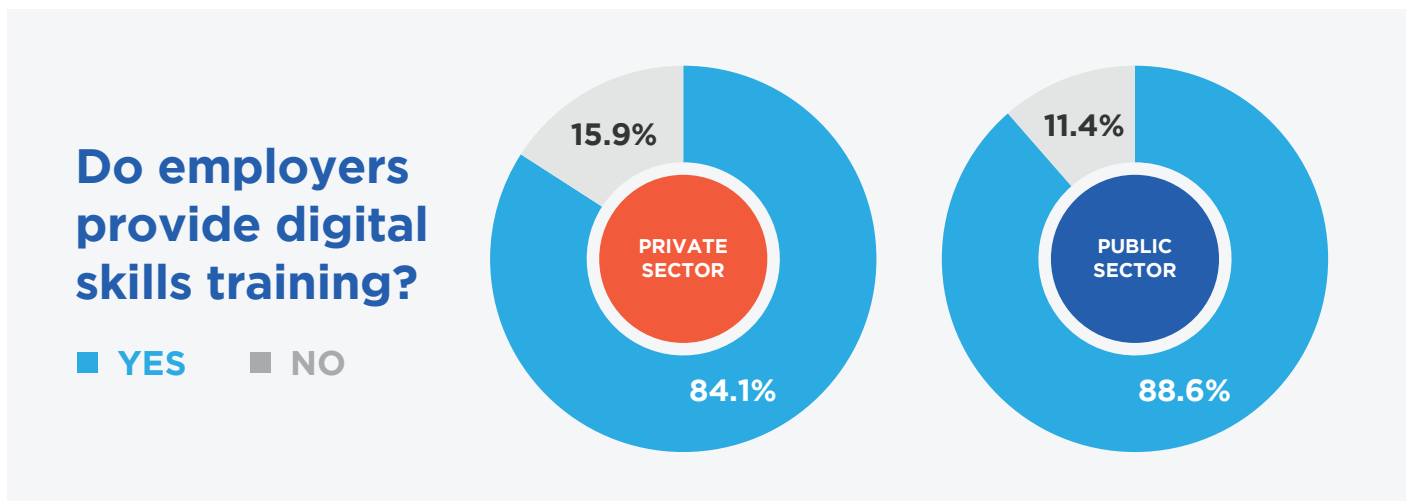
EMPLOYEE ADEQUACY BY SKILLS



Employers Providing Training

One of the key methods for addressing skills gaps is the provision of appropriate training courses.

More than 80% of the organizations (both private and public) who participated in the survey stated that they **offer training to their employees**.

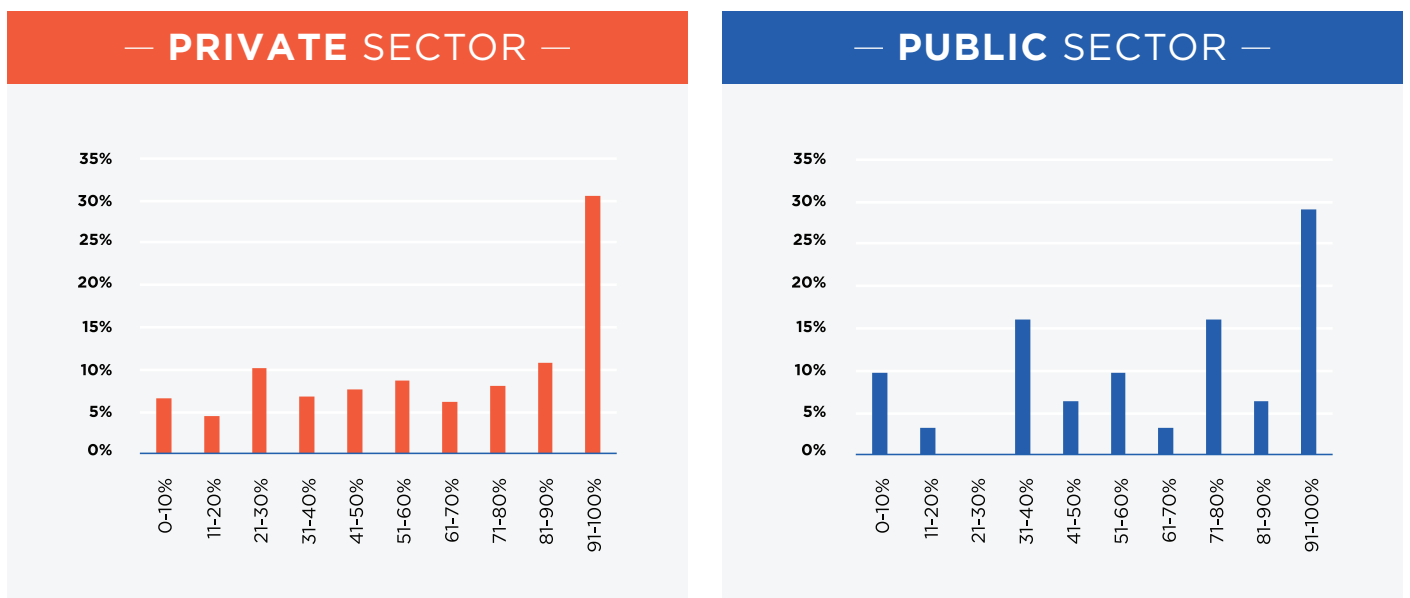


For those who provide training:

In greater detail, we see that around **30% of the private firms** that offer **training** have a **participation rate of 91-100%** followed by around 20% of firms that have a participation rate of 71-90%.

Across both sectors, around half of the organizations indicated 71-100% of their employees have participated in the training, where this rate appears slightly higher in the public sector than in the private.

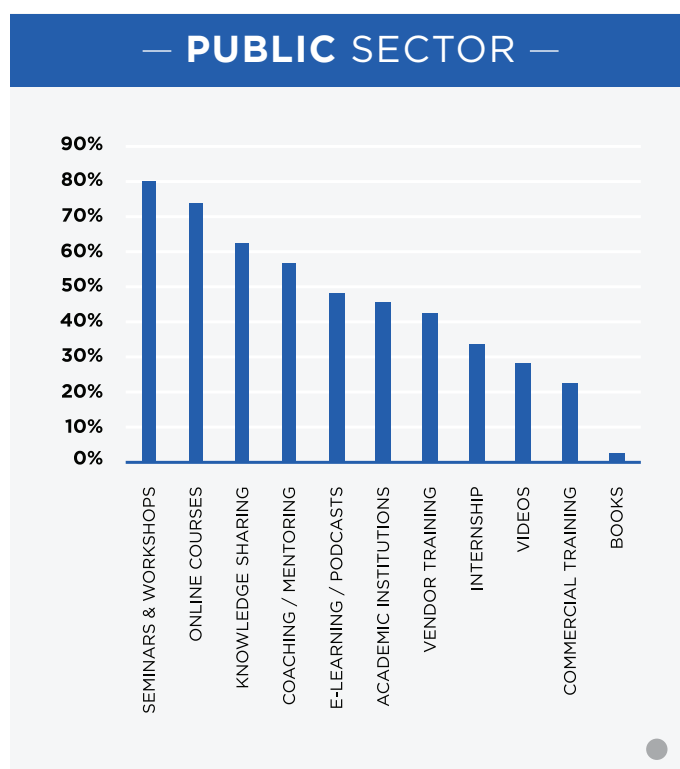
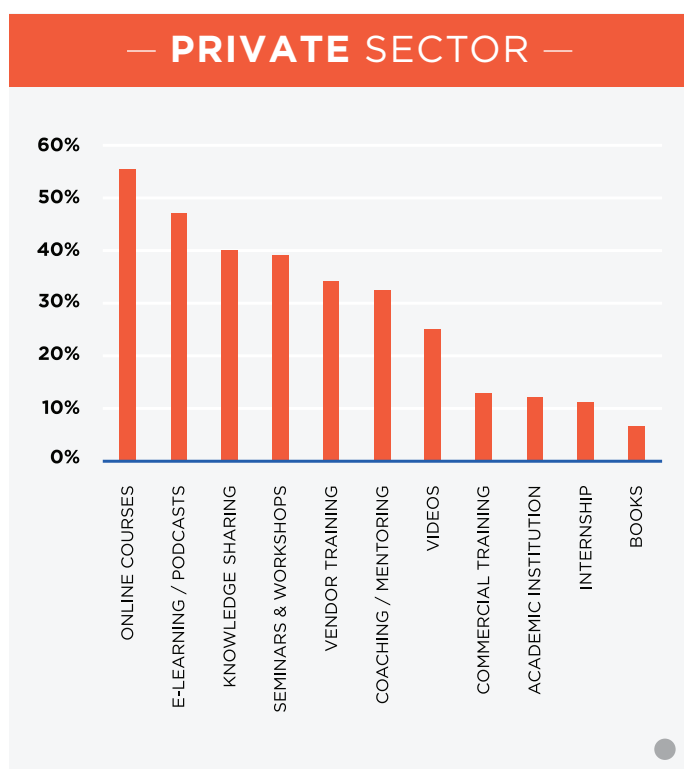
DIGITAL SKILLS TRAINING PARTICIPATION RATE



Similar trends can be observed between the two sectors in terms of the **preferred training methods**, as **Online Courses** and **Knowledge Sharing** sit in the top 3 rankings, while learning from Books becomes out of fashion.

However, in-person training methods such as Seminars and Workshops, Coaching or Mentoring, and Academic Institutions tend to be more popular in public entities, whereas independent training methods such as E-learning or Podcasts and Videos rank higher in the private sector.

PREFERRED TRAINING METHODS



For those who do not provide training:

Across both sectors, the primary reason for entities to not facilitate training was the lack of planning, whereas budget and time constraints are the secondary factors.

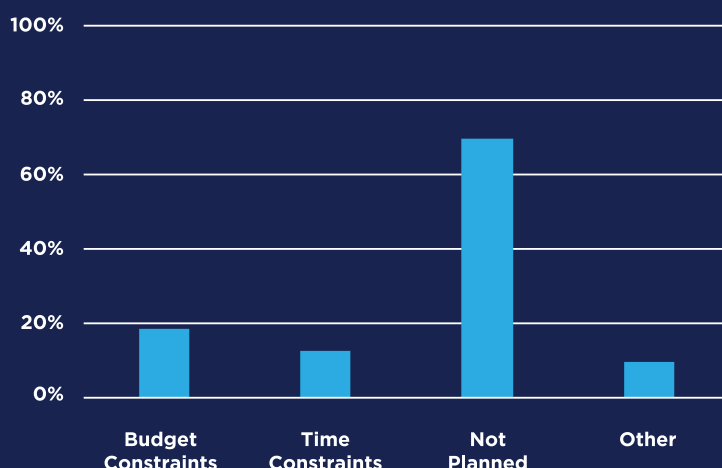
Other reasons for entities not providing training include:

Disturbance by Covid-19

Lack of replacement staff

Not seeing the need

City Level - Why Not Provide Training



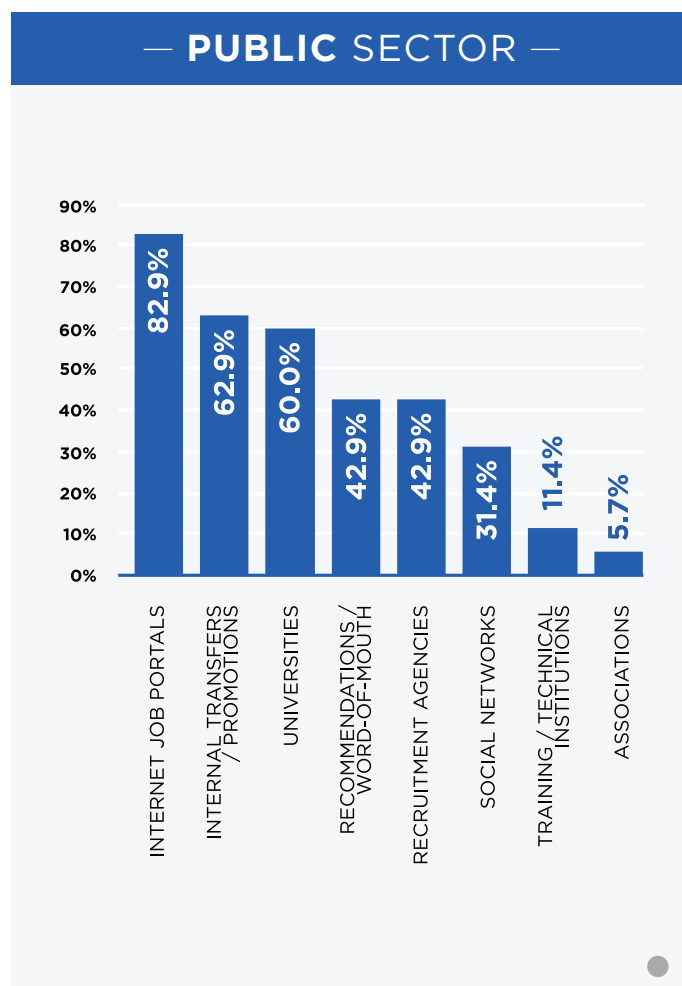
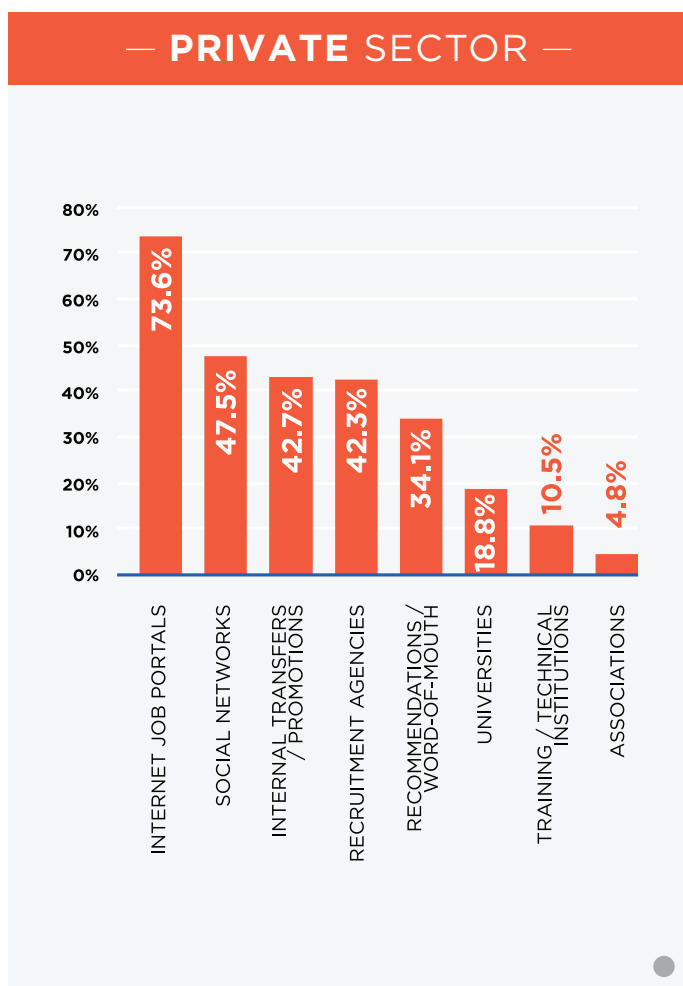
Past Year Recruitment

Recruitment Methods

The most **common recruitment** method used in the **private and public sectors** was **Internet Job Portals**.

In the private sector it is followed by Social Networks, Internal Transfers / Promotions and Recruitment Agencies, whereas in the public sector it is followed by Internal Transfers / Promotions and Universities.

RECRUITMENT METHODS

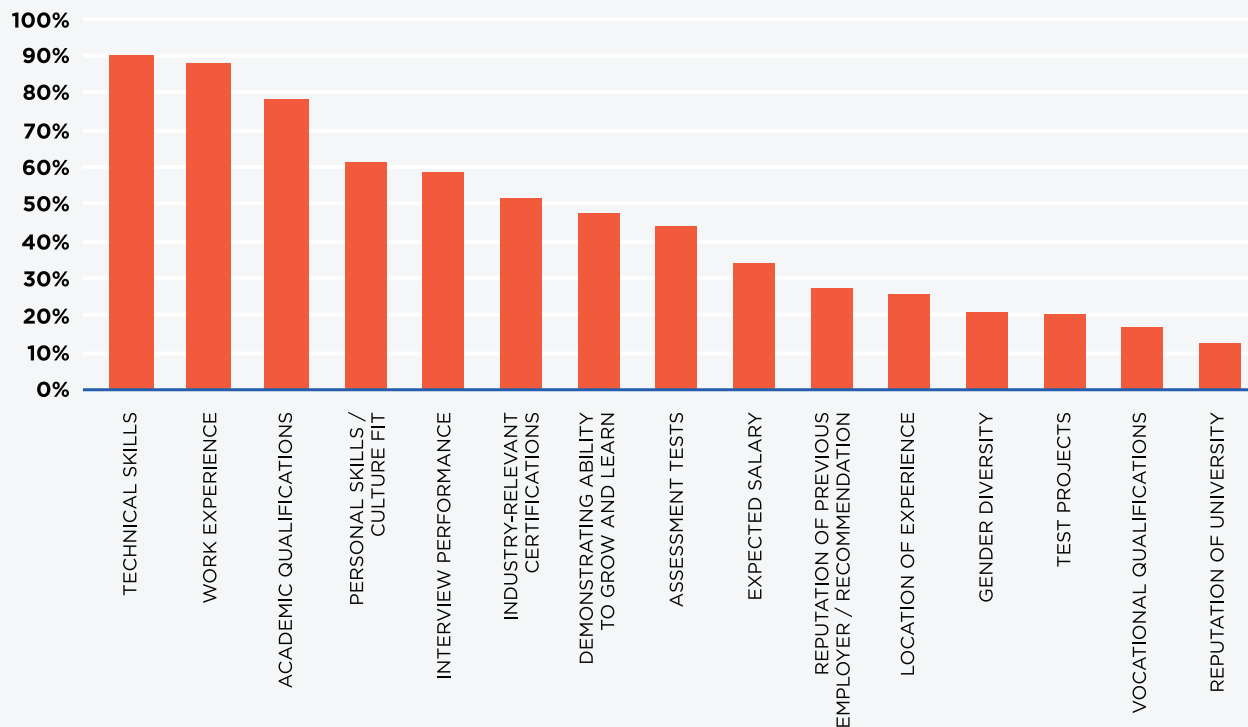


Employment Criteria

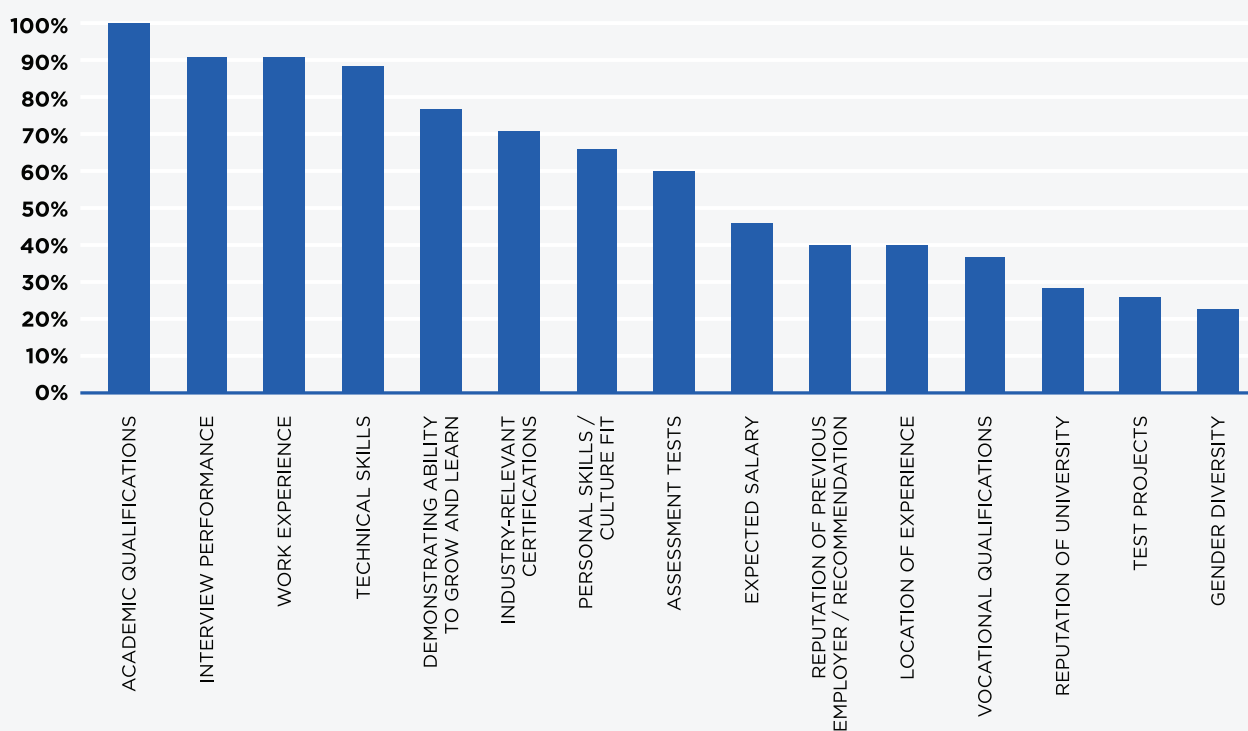
For both sectors, **Technical Skills**, **Work Experience** and **Academic Qualification** are in the **Top 4 employment criteria**. Technical Skills is more relevant for private companies, while Academic Qualifications and Interview Performance are more important for the public sector.

APPLIED RECRUITMENT CRITERIA

— PRIVATE SECTOR —



— PUBLIC SECTOR —



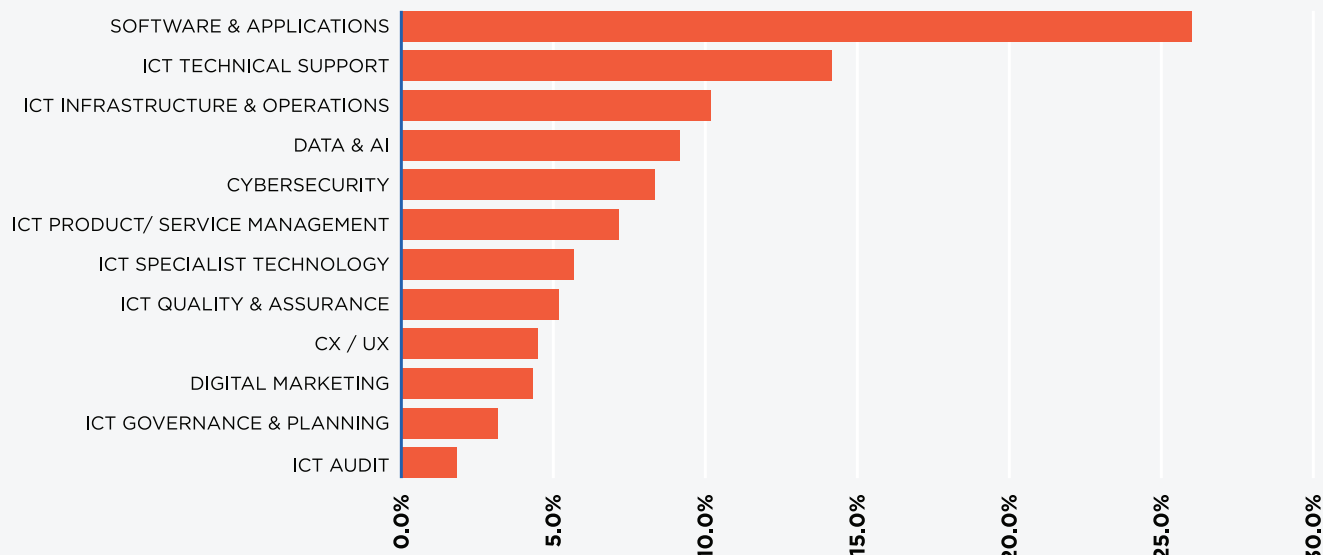
Past Year Vacancies

The private sector saw **Software and Applications** as the **skill with the highest level of vacancies** sitting just above **25%**, trumping ICT Technical Support in second place by over 10%. The remaining skills sit in the 1-10% range.

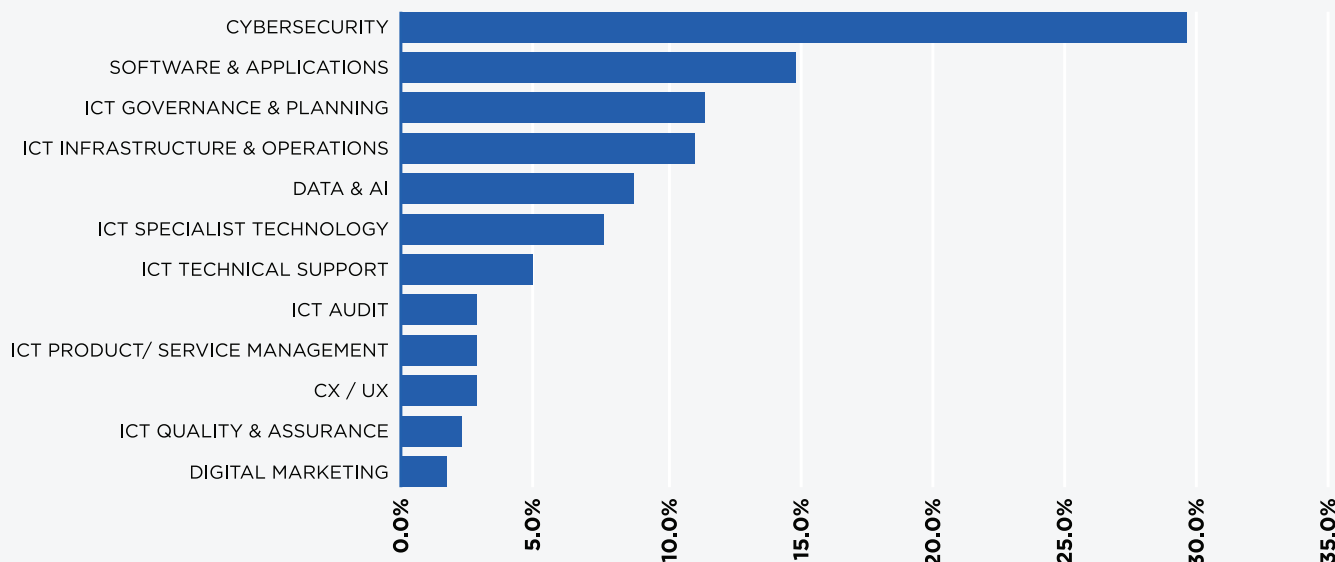
In contrast, the public sector vacancies saw Cybersecurity ranked as its highest vacant position at just below 30% followed by what was ranked first in the private sector, Software and Applications at 15%.

VACANCIES BY SKILLS

— PRIVATE SECTOR VACANCIES —



— PUBLIC SECTOR VACANCIES —



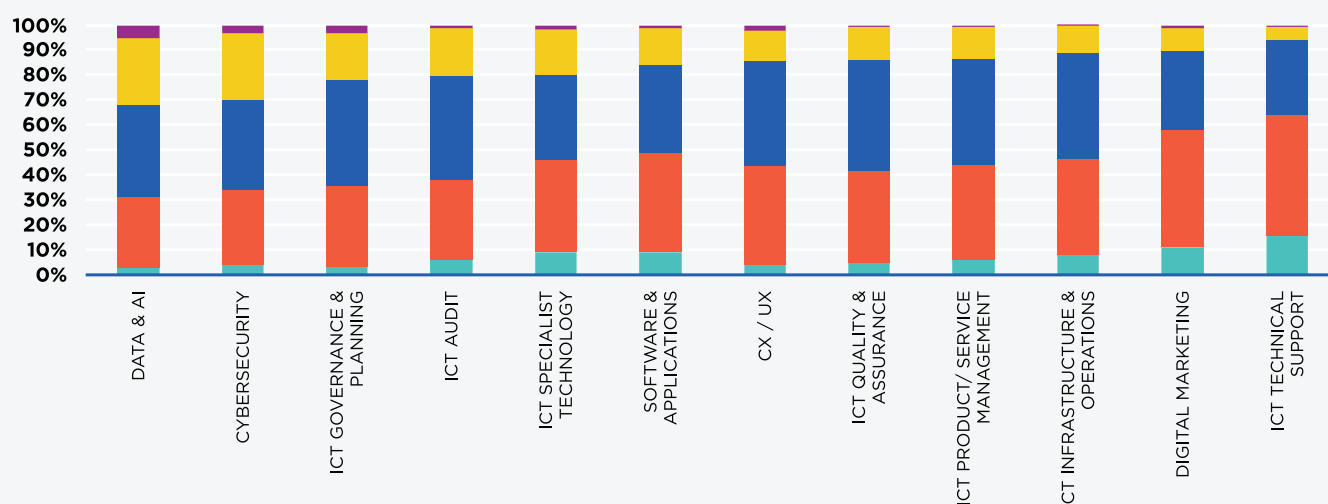
Recruitment Challenges

Across both sectors, **Entry Level professionals of Data & AI, ICT Audit, and ICT Governance and Planning are difficult to find**, with all of them in the top four hardest skills to fill. However, the **private sector** has **Cybersecurity in the top three**, while in the public sector ICT Specialist Technology is the hardest one to fill with Entry Level employees.

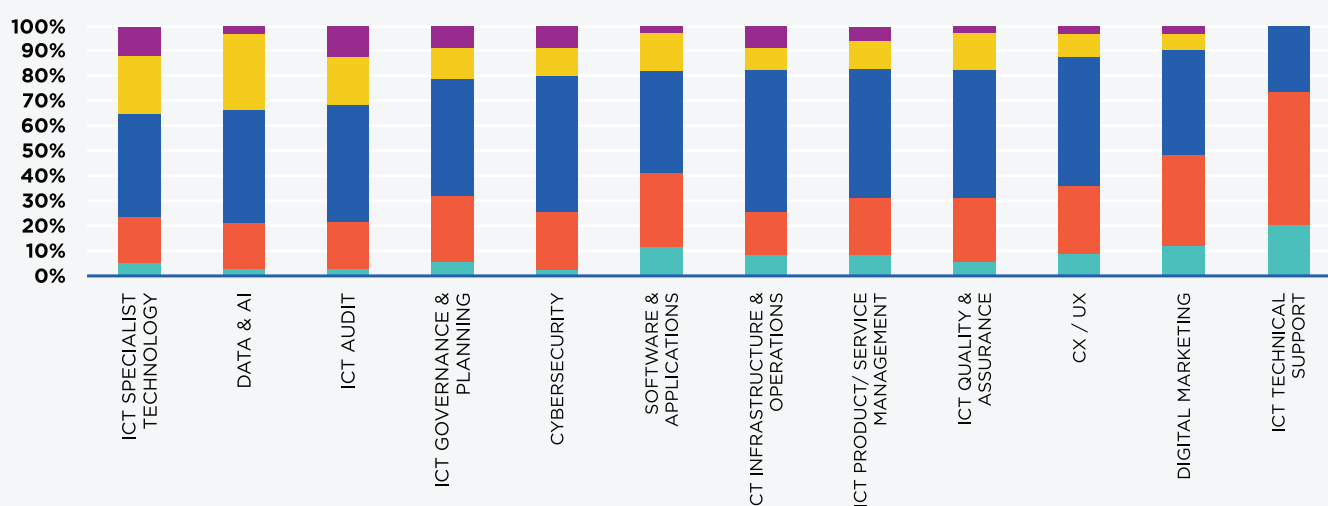
The two positions easiest to fill in both sectors were ICT Technical Support and Digital Marketing. The third easiest skill be to filled in the private sector is ICT Infrastructure and Operations, whereas in the public sector it is CX / UX.

RECRUITMENT CHALLENGES - ENTRY LEVEL

— PRIVATE SECTOR —



— PUBLIC SECTOR —

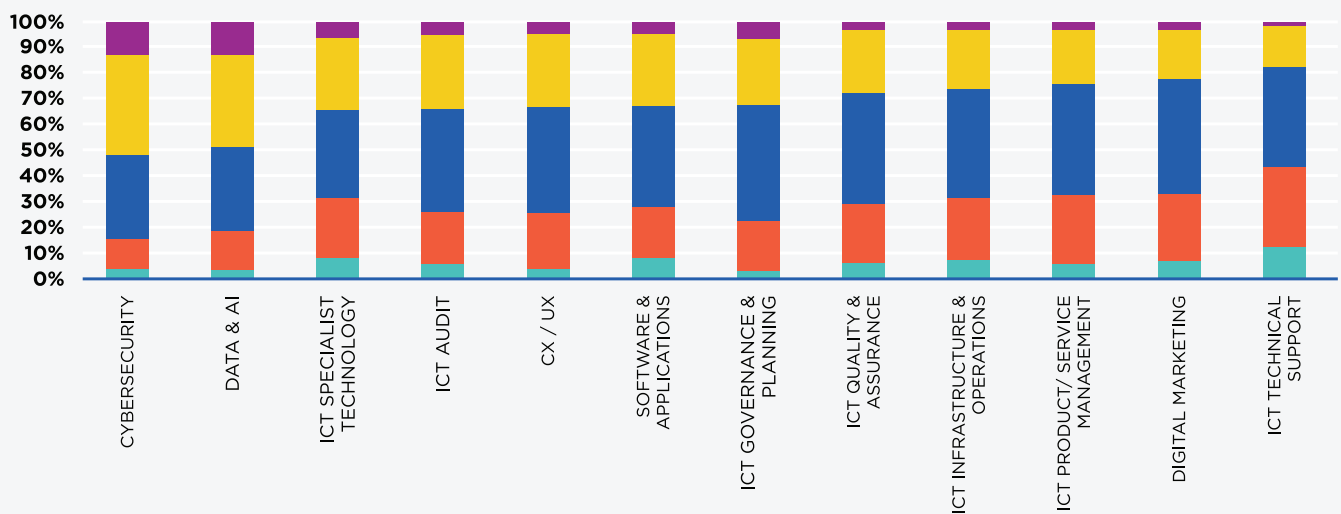


■ VERY EASY
 ■ EASY
 ■ AVERAGE
 ■ DIFFICULT
 ■ VERY DIFFICULT

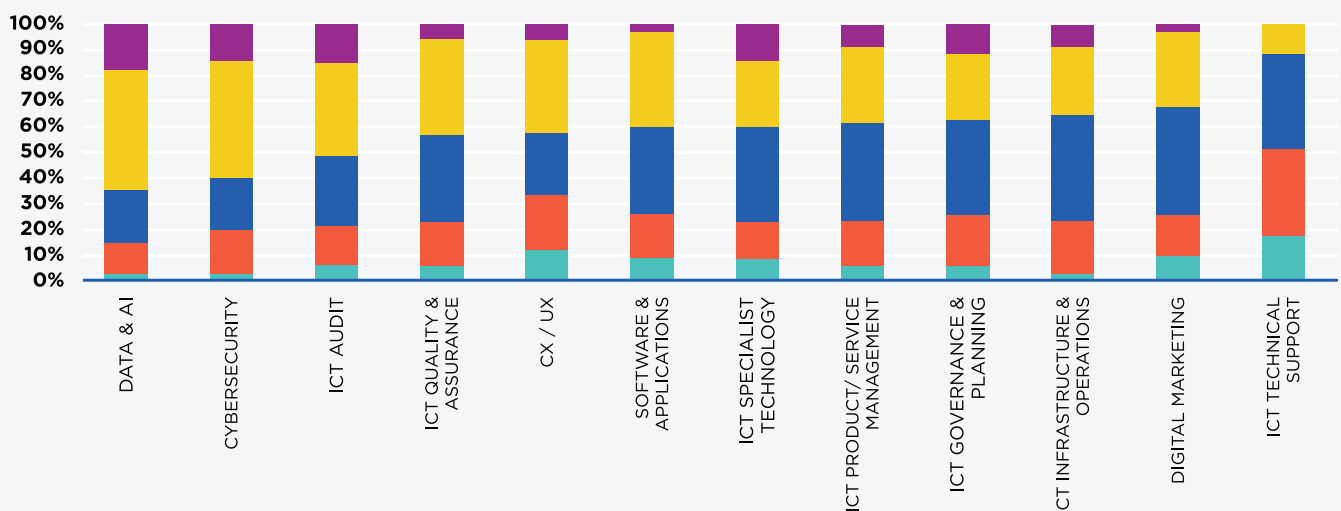
For **Senior Level recruitment** the sectors saw a significant **increase in difficulty to fill positions** in comparison to Entry Level recruits. However, such ranking of skills remains similar between Entry and Senior Levels.

RECRUITMENT CHALLENGES - SENIOR LEVEL

— PRIVATE SECTOR —



— PUBLIC SECTOR —



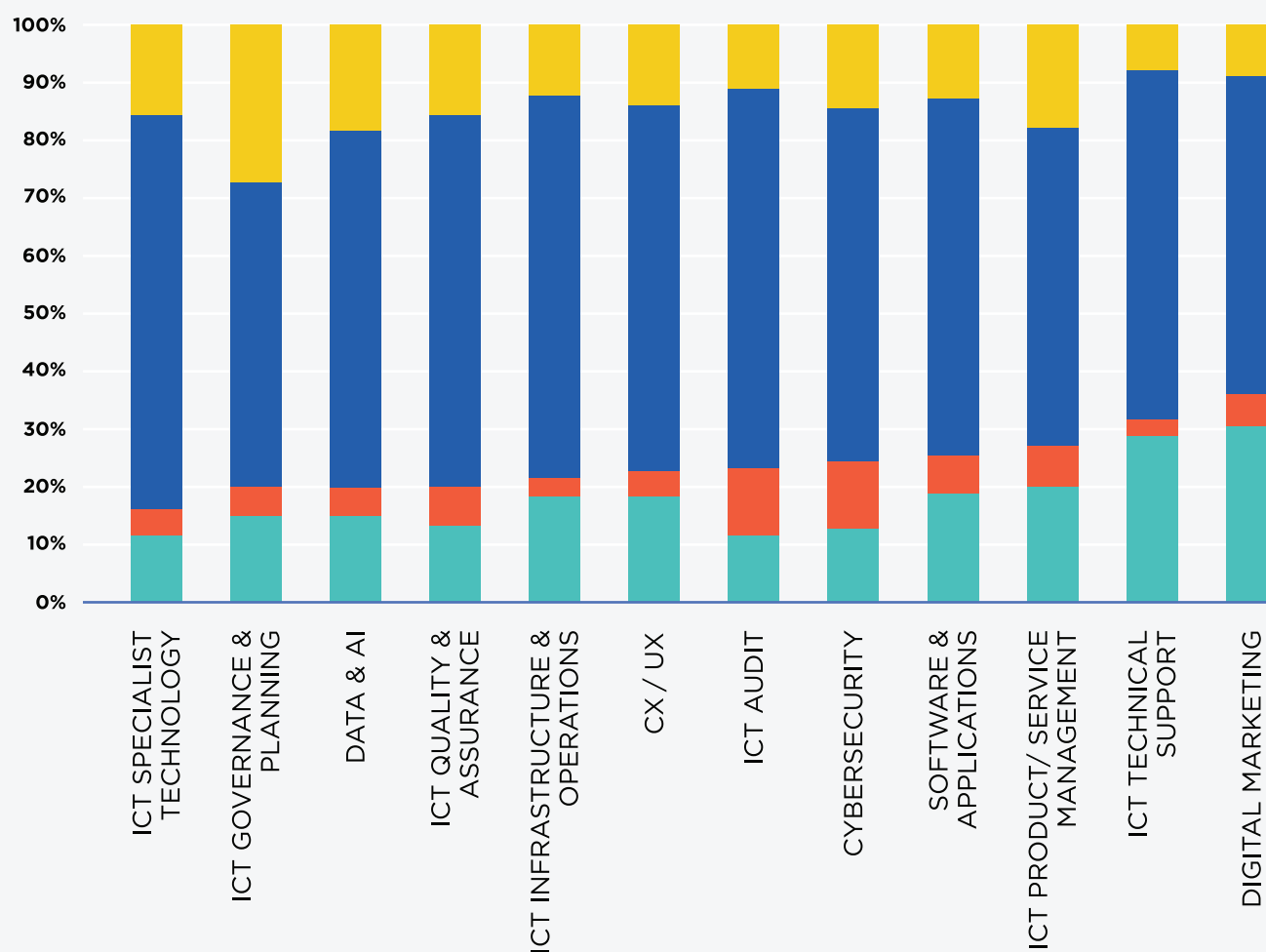
■ VERY EASY
 ■ EASY
 ■ AVERAGE
 ■ DIFFICULT
 ■ VERY DIFFICULT

Skills That Take The Longest To Fill

The **private sector** indicated, **most of the positions are filled in less than 6 months**, with **ICT Technical Support and Digital Marketing** being the easiest to fill with around **30% of the positions being filled in less than 1 month**. The most difficult ones are Data and AI, and ICT Governance and Planning; this is caused by the lack of skills with enough experience in these fields and the high salary expectations.

TIME TAKEN TO RECRUIT THE SKILLS

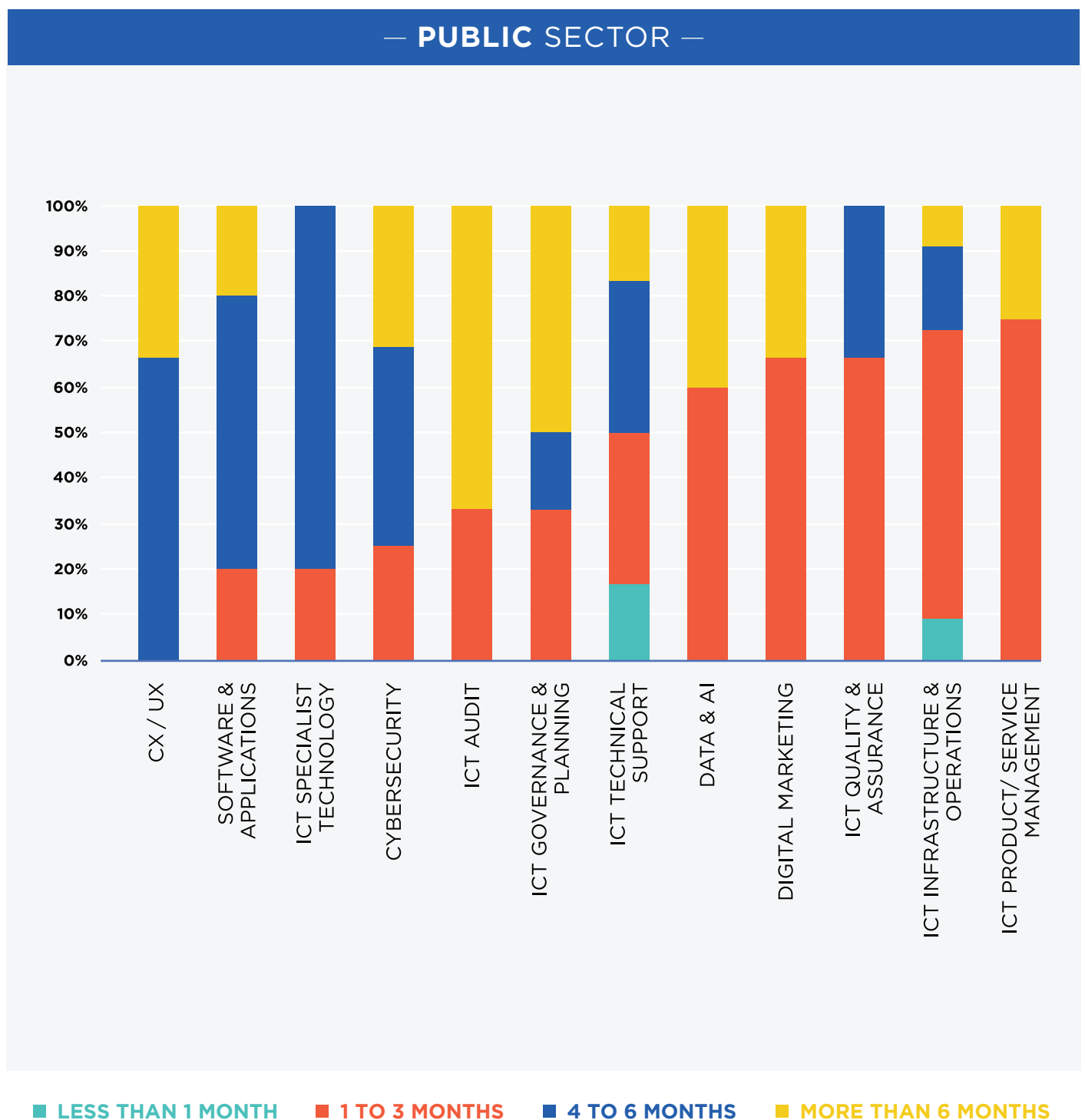
— PRIVATE SECTOR —



■ LESS THAN 1 MONTH
 ■ 1 TO 3 MONTHS
 ■ 4 TO 6 MONTHS
 ■ MORE THAN 6 MONTHS

In the **public sector**, the hiring **processes are slower**. Most of the **positions being filled in take up at least 4 months**, the main reason reported by the organizations during the survey was the relatively **less number of professionals with requisite skills** and the second was the high salaries expected by those professionals.

TIME TAKEN TO RECRUIT THE SKILLS



Future Demand

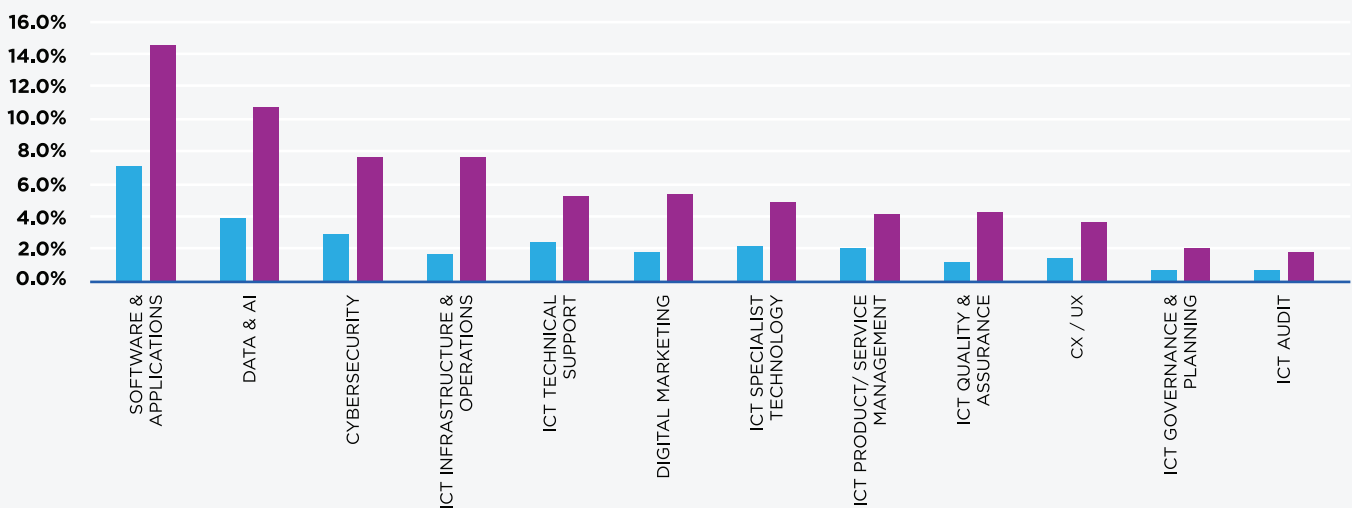
Prediction By Skills

According to employers' predictions, **Software and Applications, Cybersecurity, and Data and AI** will have the **highest demand in the next 2 years**, comprising **over 40% of the total growth**. Around **70%** of the opportunities will be for the Senior Level and **30%** for the Entry Level.

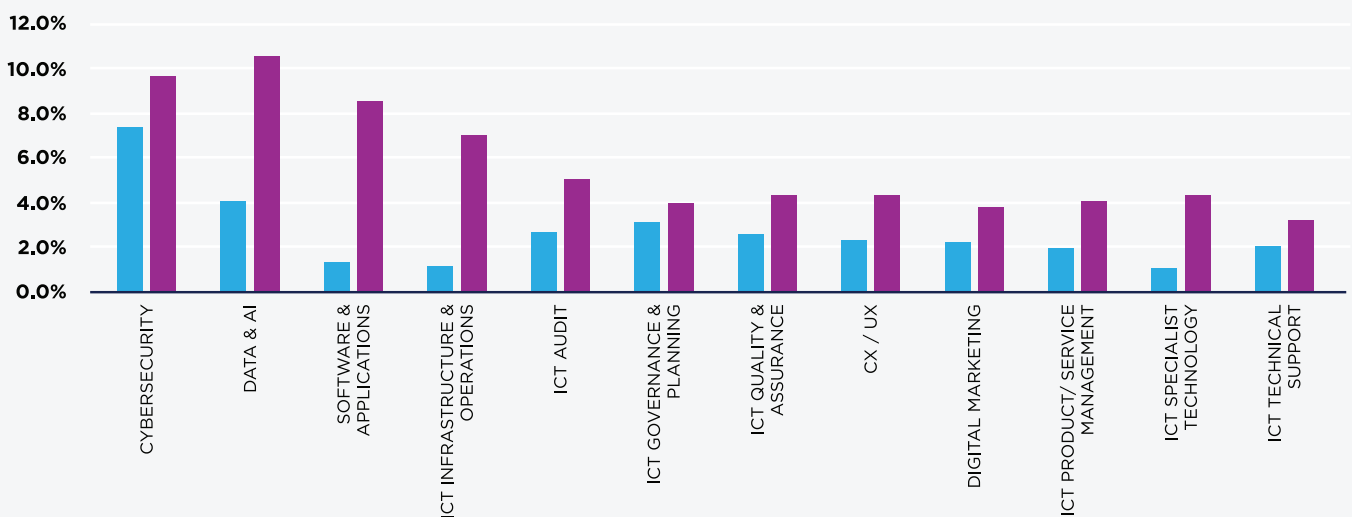
The expected demand in ICT Infrastructure and Operations for Senior Level is 4 times that of Entry Level in the private sector, and 6 times that of the public sector.

FUTURE SKILLS DEMAND

— PRIVATE SECTOR —



— PUBLIC SECTOR —

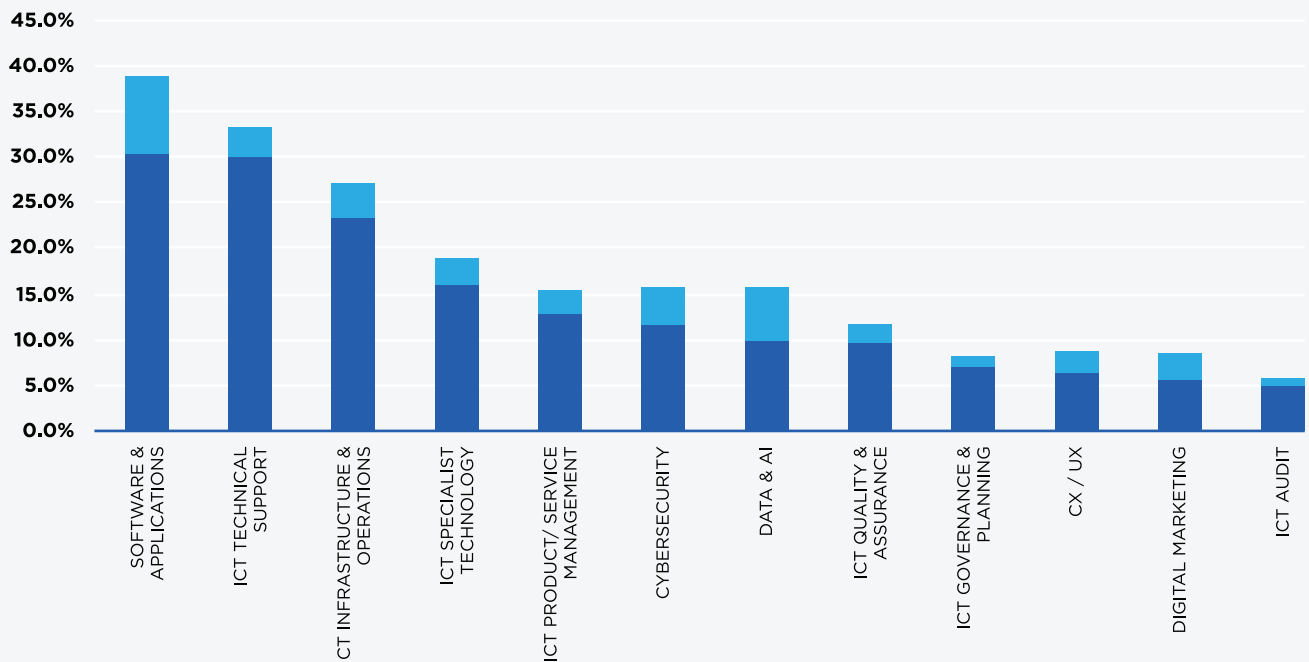


■ ENTRY LEVEL ■ SENIOR LEVEL

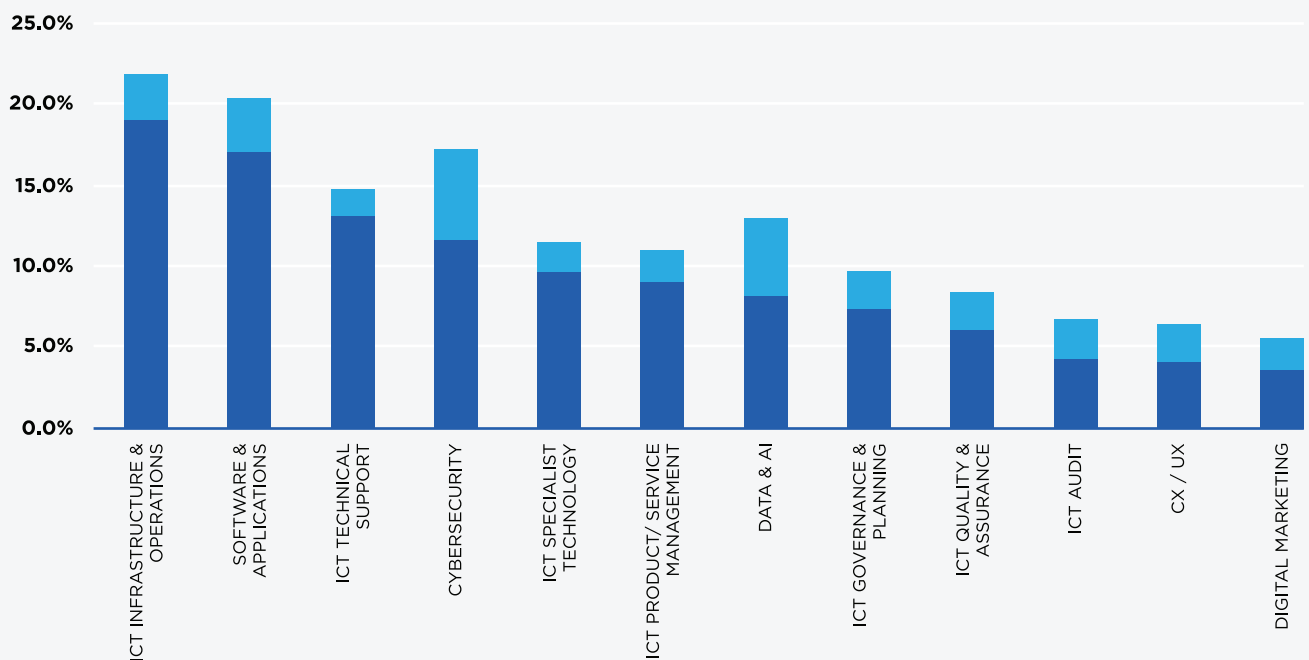
The positions with **higher growth expectation in the future** are the **same in both the public and private sectors**, Software and Applications, Data and AI, and Cybersecurity.

GROWTH OF SKILLS (FUTURE VS CURRENT)

— PRIVATE SECTOR —



— PUBLIC SECTOR —

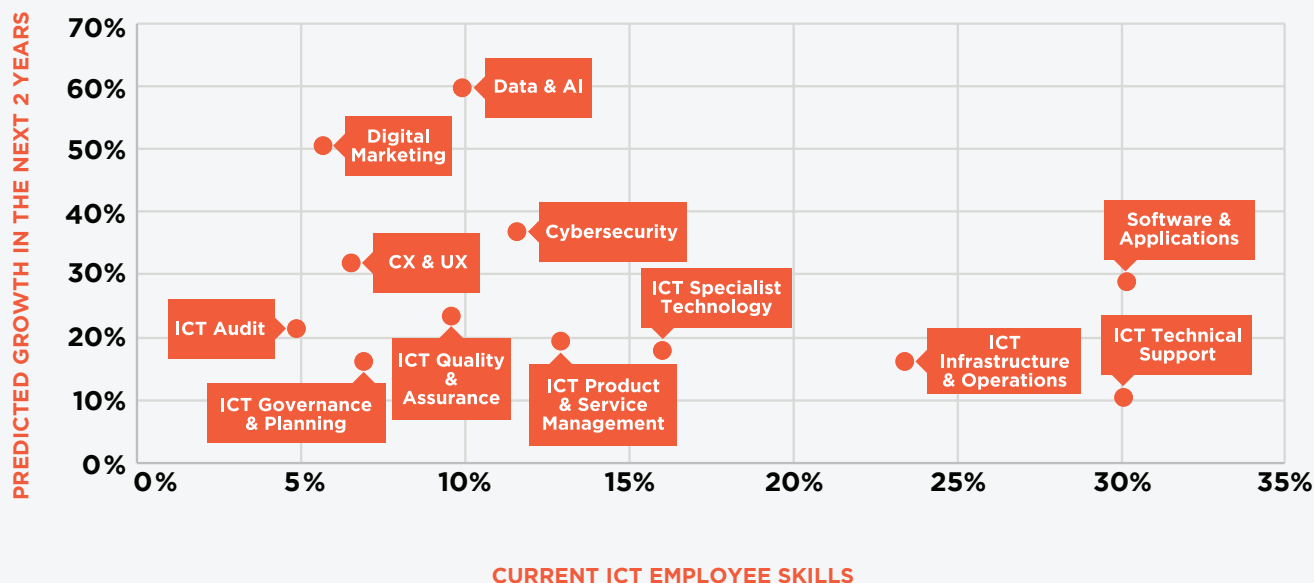


■ % EMPLOYEES CURRENT ■ % EMPLOYEES GROWTH

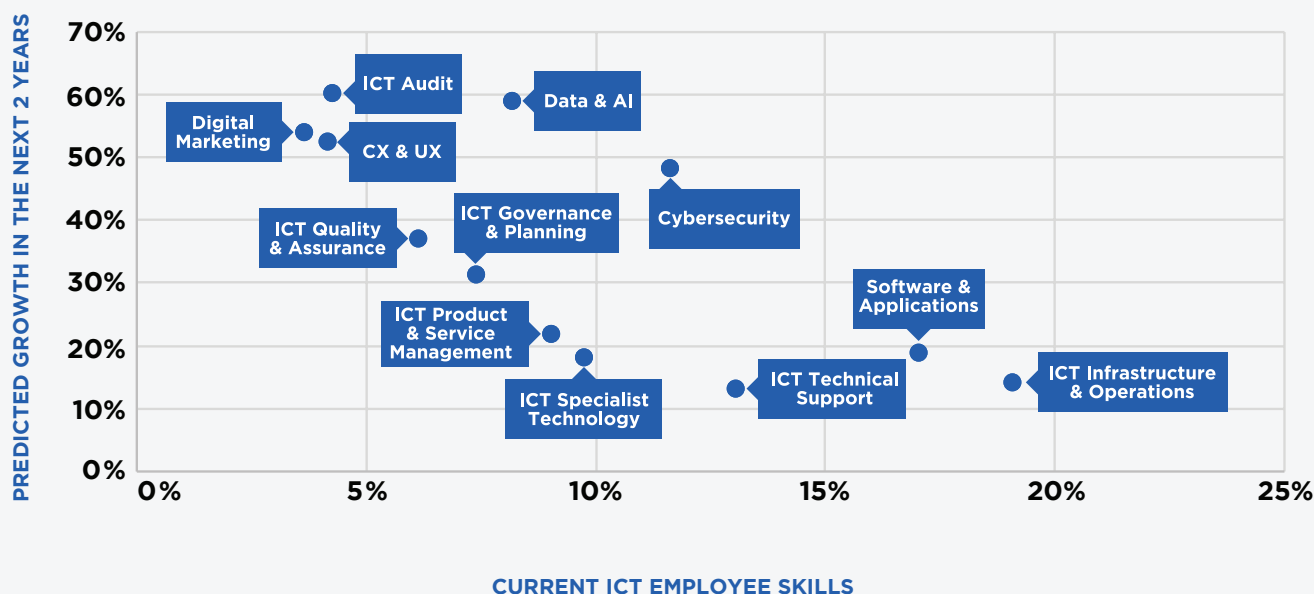
Note: Percentages here are based on the current total number of employees.

The aforementioned current and future skills are **plotted below in a different visual for public and private sectors**. A steady growth of ICT skills is predicted by employers in the future two years; however, with varying levels, ranging from **10% to 60%**.

— PRIVATE SECTOR —



— PUBLIC SECTOR —



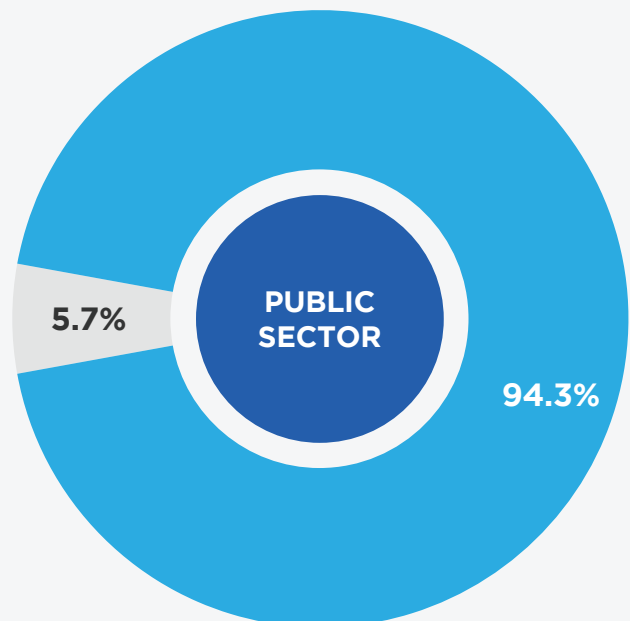
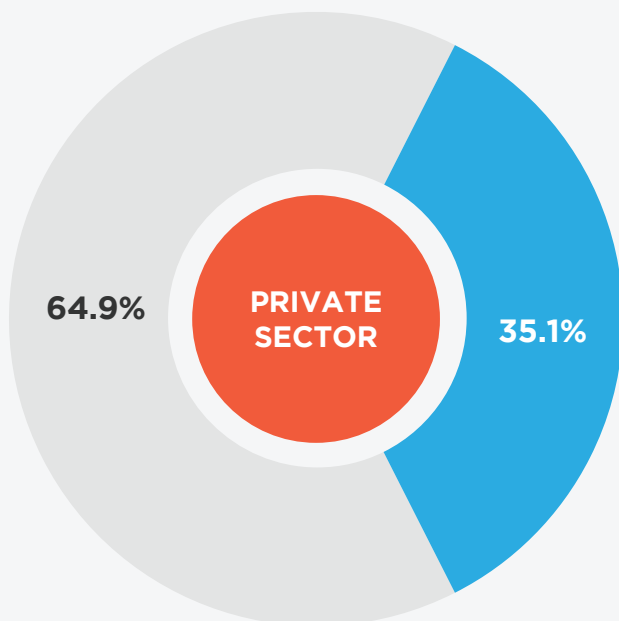
Likelihood To Take Internships

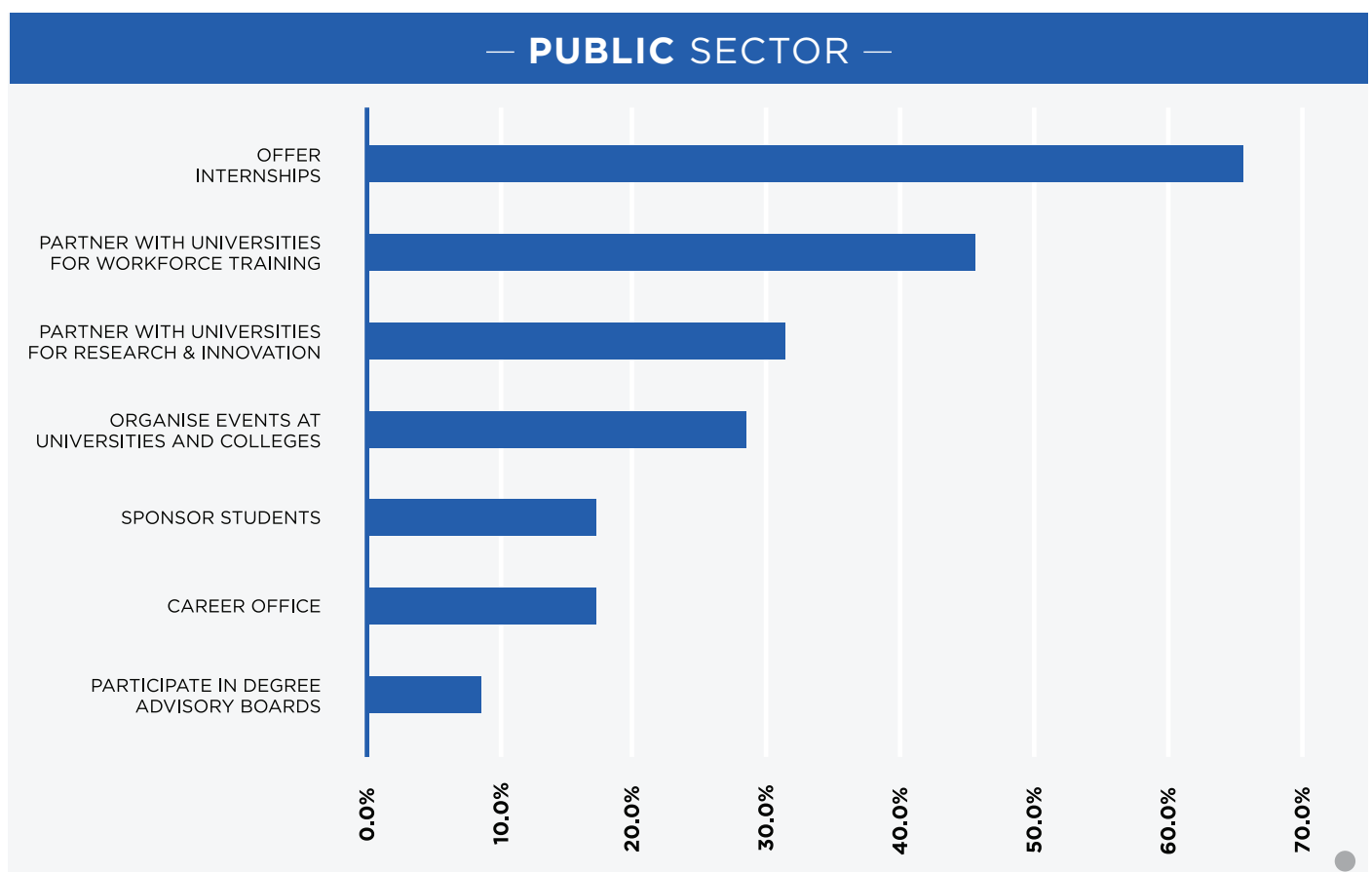
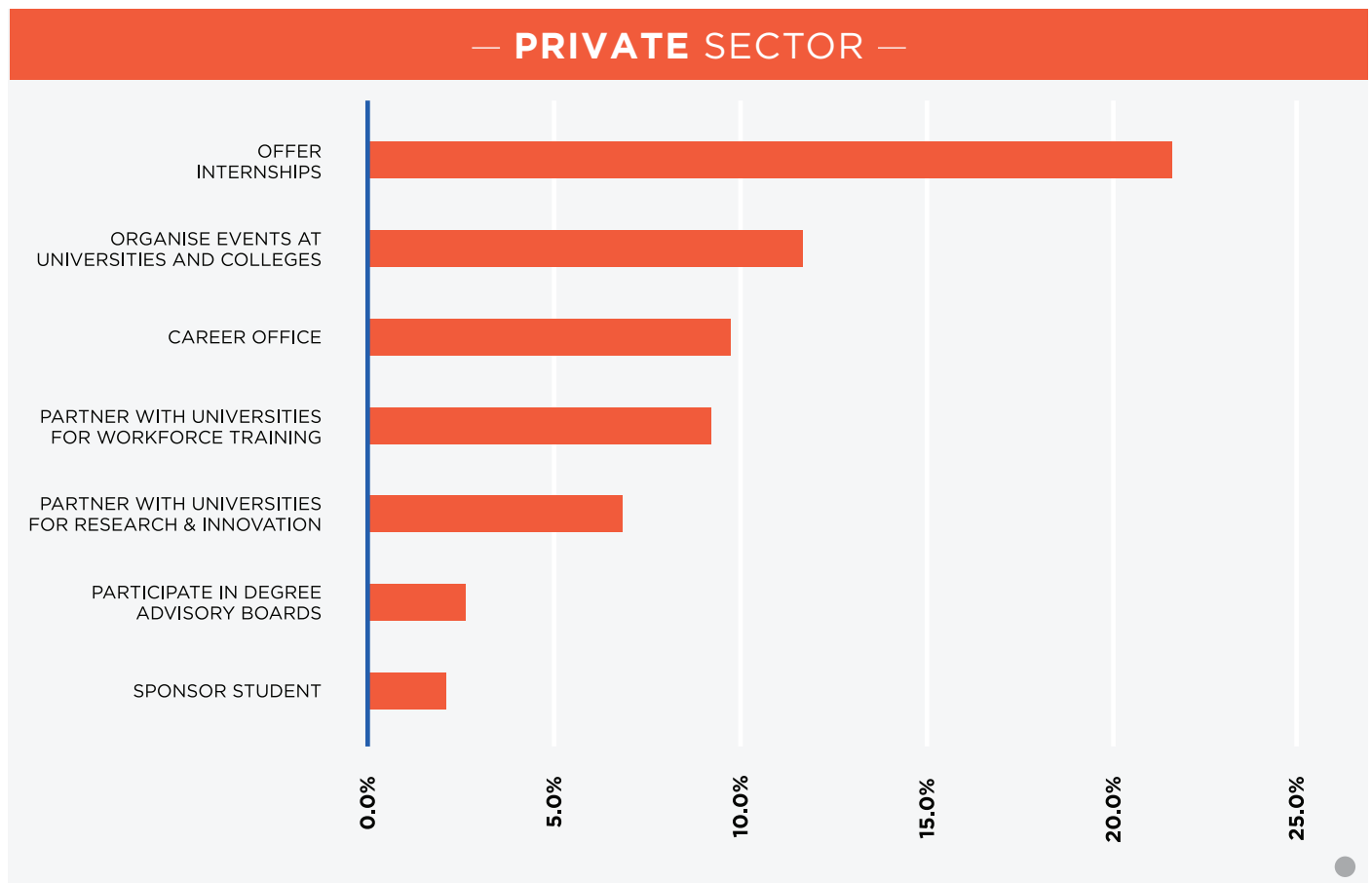


The relationship between higher education institutions and public and private organizations **vary significantly**, with the public sector having far more connections. The most common form of partnership between these two sectors is **offering internships**, with a much greater presence in the public sector. Private companies are less likely to sponsor students or participate in degree advisory boards. On average, public sector organizations engage with institutions **two to three times more than private companies**.

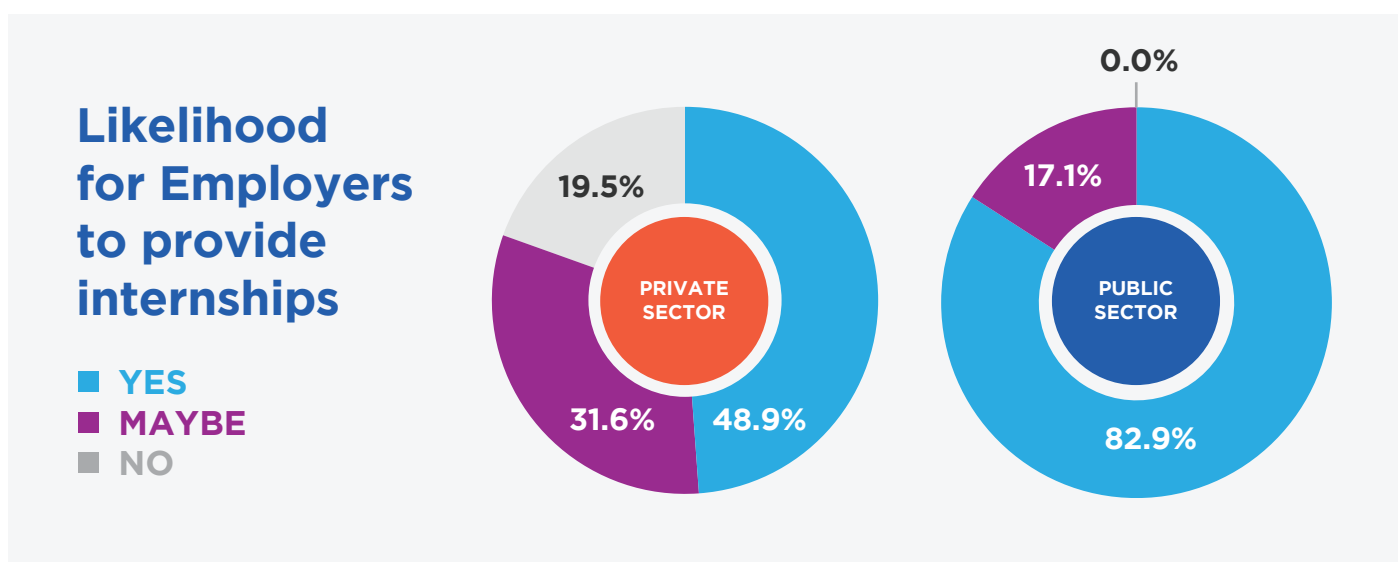
Do organizations have connections with higher education institutes?

■ NONE ■ ONE OR MORE TYPES OF CONNECTIONS



PERCENTAGE OF ORGANIZATIONS THAT HAVE CONNECTIONS WITH HIGHER EDUCATION INSTITUTES


When it comes to considering **interns** in their organization, **most public organizations are willing to accept them**. However, **the private sector is less likely to do so**, with around **20% of companies** not willing to offer internships. Despite the obstacles that companies may face when considering **ICT** (Information and Communication Technology) internships, there are **many benefits** to be obtained. **Internships** are a great way to gain industry experience, build relationships, and further develop skills and knowledge. Additionally, they can be a great way to gain an understanding of the business and, ultimately, a potential job offer.



Concluding Remarks

The city-wide digital skills survey has been the first of its kind and has received a favourable response from the participants and other stakeholders. This survey has provided valuable data and insights that will help the city in its continued efforts to develop and grow the local digital economy.

The results of this survey provide employers, education/training institutes and individuals with a better understanding of the current digital skills landscape in Dubai. As such, this report aims to enable the employees and entities in both sectors to better adapt to the changing digital economy and provide the necessary resources and support to ensure Dubai's continued success in fostering its digital talents.

The data collected from this survey will provide Dubai with the necessary information to work collaboratively with its private sector partners to formulate strategies and initiatives to better boost the local talent market and the digital economy. By doing so, Dubai will be able to continue to attract top talent, create more jobs, and ensure its continued success as a leader in digital transformation and to maintain its prominent position as a global digital talent hub.

Acknowledgement

Digital Dubai would like to express its utmost gratitude to all the establishments that participated in the Digital Skills Survey. Without their support and feedback, this project would not have been possible.

The employers who took the time to complete the survey and share their insights on digital skills in the workplace are also highly acknowledged. Digital Dubai is especially grateful for their enthusiasm and willingness to provide detailed responses that helped to understand the current state of digital skills in Dubai.

Finally, Digital Dubai expresses its gratitude to its team of researchers and analysts, who worked tirelessly to ensure that all data was collected accurately and analyzed with precision. Their dedication was instrumental in making sure that this project was completed on time and with high quality.

