

# Opportunities to Bridge the Skills & Talent Gaps in the Turkish Technology Sector

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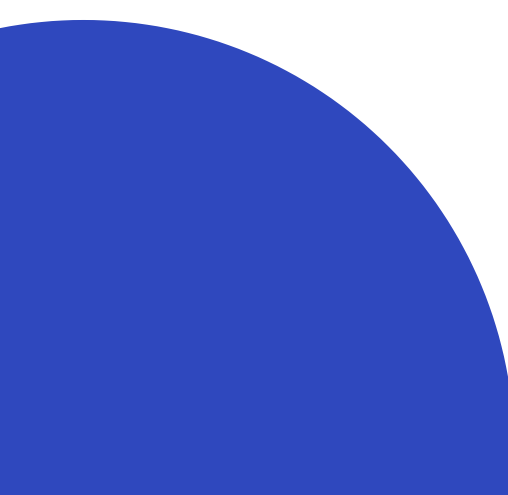
# Preface

**Re:Coded** | Re:Coded is an innovative non-profit with a vision that anyone, anywhere should have the opportunity to thrive in the digital economy. Through our transformative educational programs, Re:Coded empowers youth in untapped communities to launch careers in technology and become agents of change.

Since 2017, Re:Coded has graduated over 600 youth in our Immersive Education Courses across Turkey, Iraq, Lebanon, and Yemen. We start them on a path towards high value employment in the tech sector, and provide them with the skills, resources, and network to multiply their income earning potential over time. All of our students come from lower-income backgrounds; 51% identify as female; and 40% identify as refugees. As of August 2021, we have a 92% go-to job rate.<sup>1</sup> Our graduates are not only enabling innovation at hundreds of leading companies, but they are also launching new businesses and bringing underrepresented viewpoints to nascent (and global) tech ecosystems.

**Impact Hub Istanbul** | Operating in more than 100 centers and 60 countries around the world, Impact Hub is a platform which brings impact-driven change-makers together and provides the collaborative environment they need. Serving as a member of the global Impact Hub network, Impact Hub Istanbul designs collaborations with influential partners and provides programs, events, mentorship, office areas and networking support for social entrepreneurs and impact-oriented individuals and institutions.

The Impact Hub membership is based on a system that consists of people from a wide variety of disciplines like entrepreneurs, consultants, investors, software developers, designers, artists, creatives, and freelancers. Vibrant community, inspiring space and meaningful content are the core of the Impact Hub experience. With the local community and global network, Impact Hub Istanbul is making progress to build a better and more sustainable world for everyone and have a common language on the Global Sustainable Development Goals (SGDs) for the global issues that demand urgent action.






# Acknowledgements

This report is based on a survey and in-depth interviews with 54 private sector organisations, carried out in 2021 by Re:Coded and Impact Hub Istanbul, in partnership with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

The report is part of a joint project implemented by the PEP-Promotion of Economic Prospects Programme, financed by the German Federal Ministry for Economic Cooperation and Development (BMZ) and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. The PEP-Promotion of Economic Prospects Programme's main pillar is strengthening the resilience of Syrian refugees and the host community. Programme measures are designed to enhance economic prospects to foster systemic and community resilience to national and local stresses. Through focus areas such as green economy, public-private dialogue (PPD) structures and digital transformation, PEP targets increasing employability, protecting and creating employment, enhancing public sector support systems, and improving the conditions for medium and small enterprises (MSMEs) and the business environment in urban and rural areas. To achieve its goals, PEP collaborates with local and international partners. GIZ's approach at PEP involves a series of such measures as the provision of vocational training and skills development, supporting decent employment measures in private and municipal sectors, assisting entrepreneurs and start-ups, formalising unregistered businesses, developing capacities of key business development service providers, and facilitating synergies between public and private sector stakeholders.

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# Table of Acronyms

GDP	Gross Domestic Product
UX/UI	User Experience / User Interface
OECD	Organisation for Economic Co-operation and Development
ICT	Information and Communications Technology
IFRC	International Federation of Red Cross and Red Crescent Societies.
TEPAV	Türkiye Ekonomi Politikaları Araştırma Vakfı (The Economic Policy Research Foundation of Turkey)
TRC	Turkish Red Crescent Society
İŞKÜR	Türkiye İş Kurumu (Turkish Employment Agency)

# 1 / Executive Summary

The rapid spread of digital technologies is transforming global economies and societies at an unprecedented pace. Every country and sector has been impacted by the technological revolution, and Turkey is no exception. While the Turkish economy has faced hardships over the past decade, the technology sector is one of the few industries that has continued to grow and create new educational and job opportunities. In 2019 alone, there were nearly 3,500 open positions for software developers. Moreover, a recent study undertaken by McKinsey foresees that within the next decade, digital technologies have the potential to create 1.3 million net new jobs in the technology sector.<sup>2</sup> In addition, 1.8 million jobs that currently do not exist may be created, many of them in technology-related sectors.

However, to enable this change, 21.1 million people in the Turkish workforce will need to learn to leverage digital technologies while in their existing jobs. At least 7.7 million new laborers who will join the workforce will also need to be equipped with the latest skills. To meet the talent transformation needs of the economy and match employer demand, investment in market-driven upskilling initiatives that target both technical skills and core employability skills (i.e. growth mindset, critical thinking, and interpersonal skills) will be critical, particularly for youth embarking on careers in the digital economy.

However, to date, limited information is available on the needs of employers, especially among privately-owned companies, in Turkey's technology sector. The aforementioned upskilling initiatives lack the data to guarantee the success of their programming, and youth do not have the context to adequately thrive in these careers. To better understand private sector demand for talent, Re:Coded and Impact Hub Istanbul surveyed 54 organisations utilising technology in their operations.<sup>3</sup> The analysis focuses on junior developer and designer roles; as formal technical education and experience are not pre-requisites for success, these roles serve as key entry points for youth interested in starting a career in the digital economy.

The data affirms that these employers' main challenges in recruiting new, junior talent relates to candidates' inadequate technical expertise, employability, or awareness of the industry. The following insights reveal high-impact opportunities for collaborative upskilling initiatives that address these gaps, uplift the needs of both employers and youth, and ultimately drive greater economic growth in Turkey.



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**While the Turkish economy has faced hardships over the past decade, the technology sector is one of the few industries that has continued to grow and create new educational and job opportunities.**



# Highlights & Key Findings

## Upcoming Recruitment Plans

- Eighty-nine per cent of organisations surveyed plan to recruit new team members within the next 12 months.
- The majority of those recruiting in the next year plan to bring on an average of 5 new team members.<sup>4</sup>
- Over the course of the next year, 93% of organisations plan to recruit developers and 54% plan to recruit designers.
- The main technical skills that employers are looking for while recruiting for open positions are:
  - 1) Mobile application development,
  - 2) QA (Quality Assurance),
  - 3) UX/UI design,
  - 4) Front-end web development, and
  - 5) Back-end web development.
- There is a breadth of opportunity for youth seeking to start careers in the digital economy, as 79% of organisations plan to recruit junior developers and 70% plan to recruit junior designers in the next year.
- Youth graduating from technical training programs have an opportunity to start their careers in technology with little or no work experience, as 56% of surveyed organisations have an internship program.
- Ninety-one per cent of respondents report an openness to hiring non-Turkish talent. 85% report an openness to hiring non-Turkish speaking team members, provided they are fluent in English.

## Recruitment Challenges

- Employers report that their main challenges in recruitment processes are time spent on interviews and an inability to find the right person for open positions.
- Employers report that applicants are lacking both the technical and English-language skills required for open positions.
- Employers stated that many applicants were not aware of changing sector dynamics, and did not demonstrate a clear commitment to their own professional development and continued learning.



## Recommendations

Given the current findings, we recommend the following actions to be taken by public, private, and development partners in Turkey:

- Eighty-nine per cent of organisations surveyed plan to recruit new team members in the next 12 months so technical training in the top five technical skills employers are looking for should be prioritised and be made accessible to youth in Turkey interested in joining the digital economy, including refugees.
- Training programs that give participants both the technical and core employability skills (i.e. communication, teamwork, and problem-solving) that employers need should be developed and delivered. These programs should also train participants to learn how to learn, in order to better equip youth to stay up-to-date on the latest technological developments and to learn new technical skills as the sector evolves.
- English-language training should be made accessible to all youth in Turkey with an interest in working in technology, in order to enable them to access training and to start a career in the digital economy.
- The private sector and other organisations delivering career-readiness programs in Turkey should collaborate to ensure that these programs adequately prepare youth to apply for jobs, develop CVs, improve interviewing skills, and ultimately enter the labour market.
- Organisations and private sector companies should partner with one another to develop education-to-employment pipelines, including internships, to shorten the amount of time spent on recruitment.
- Organisations that support legal employment for refugees (i.e. processing work permits, registration for freelancers, etc.) need to partner with the private sector to raise awareness and foster bureaucratic and legal support for formal employment for refugees in Turkey.

## 2 / Introduction & Context

### Rising Youth & Refugee Unemployment

With the Syrian crisis in its tenth year and the Turkish economy still struggling, youth unemployment rates have steadily increased in Turkey over the past decade, despite high rates of university degree attainment.<sup>5</sup> The COVID-19 pandemic has further exacerbated this situation, causing massive economic disruption, job loss, and interruption to formal education. While the pandemic's net impact is still unknown, it is clear that youth who were already at the margins of the global digital economy risk being further left behind and entering a dangerous cycle of economic disenfranchisement and instability.

Many Turkish and Syrian youth find themselves at a critical crossroads. In 2019, youth unemployment soared to nearly 25% and has remained constant throughout the pandemic. Moreover, the rate of youth that are in neither employment nor education or training has since steadily increased to 29.1% (from 24% in May 2019).<sup>6</sup> The situation is even more critical for refugee youth, with the IFRC (International Federation of Red Cross and Red Crescent Societies) estimating rates of unemployment reaching 69%.<sup>7</sup> Many Syrian-owned businesses have suspended their activities partially or fully during the pandemic as well.<sup>8</sup> According to a survey from TEPAV (The Economic Policy Research Foundation of Turkey) released in June 2020, nearly half of the Syrians surveyed had lost their livelihoods indefinitely, compared to 15% of Turkish citizens.<sup>9</sup>

### Growth in the Turkish Technology Sector

In stark contrast to the state of these unemployment rates, the Turkish technology sector is one of the few industries that has continued to grow and create new educational and job opportunities. In fact, the Turkish government has made significant investments in the technology sector over the past few decades. In 2001, they mandated the creation of technology development zones, or “teknoparks,” where entrepreneurs can find space to work from, build their professional networks, obtain mentorship and take advantage of tax benefits to grow their ideas and their businesses. As of May 2021, there were 73 teknoparks in operation; close to 6,600 organisations were working from them and annual exports valued at \$6.2 billion.<sup>10</sup>

By investing in legislation and infrastructure to support the technology sector across Turkey, the government has contributed to an environment for innovation and growth. In 2020, 155 Turkish tech startups raised over \$143 million, setting a new record for the ecosystem. Increasingly, these startups are exiting into global tech companies, including the country's first unicorn exit (and Europe's largest VC-backed exit in 2020) worth \$1.8 billion.<sup>11</sup> The simultaneous rise of successful technology startups and the VC funds and capital to amplify them, has created the conditions for dignified and productive employment opportunities for youth in the digital economy.

Moreover, the COVID-19 pandemic has catalysed a global discussion around online work, and revealed some untapped potential for digital workers and employers. Jobs in the technology sector offer more potential for refugees and host community members alike because of higher salaries and lower barriers to entry, when compared to other high-skilled fields. Most technology-based jobs don't require advanced degrees or qualifications — those with no coding or design experience are able to kickstart their careers within a few months. As a result, both UNDP and the UN Global Compact for Refugees have recommended digital job livelihood programs.<sup>12</sup> Engagement with the private sector in Turkey — particularly those working in or utilising technology — remains a key component of the economic integration of refugees and a driving force to move the entire Turkish economy forward.

## The Skills Mismatch

Despite the promising market indications, one key driver of youth and refugee unemployment in Turkey is a sizable skills mismatch; young people don't have access to the skills needed to succeed in today's jobs, let alone tomorrow's. According to the 2020 Information and Communications Technology (ICT) Sector Labour Market Report by ISKUR (the Turkish Employment Agency), employers struggle the most when recruiting for competent Software Engineers, Software Developers, and Computer Engineers.<sup>13</sup> Among the top reasons employers are struggling to find employees in the ICT sector, “not finding employees with necessary professional skills/qualifications” comes first at 97%, “not finding employees with sufficient work experience” comes second at 90%, and “[candidates] demanding high wages” comes third at 61%.<sup>14</sup>



Top reasons employers are struggling to find employees in the ICT sector in Turkey

Unless youth and refugees in Turkey have the skills, resources, and networks to thrive, their integration into the digital economy will not be easy. Part of this skills gap can be attributed to the lack of communication around and research on the specific talent needs of private sector employers in the Turkish technology sector. Consequently, neither youth and refugee talent nor training and educational initiatives have the complete context to understand how to bridge the gap; meanwhile, employers are held back from reaching their fullest potential and hiring high-quality talent with ease and efficiency. Collaboration between stakeholders stands to benefit everyone involved, and this report aims to contribute to existing literature on the skills and resources needed to fill critical labour market gaps in the local Turkish economy and help prepare youth, including refugee youth, for a dynamic future of work.



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**Engagement with the private sector in Turkey – particularly those working in technology – remains a key component of the economic integration of refugees and a driving force to move the Turkish economy forward.**

## 3 / Methodology

In November 2020, Re:Coded and Impact Hub Istanbul began collaborating to understand the recruitment challenges faced by employers in Turkey's technology sector. Up until this point, most information has been anecdotal. This research seeks to provide an evidence-based analysis of these challenges and offer tangible solutions to bridge the digital inequality divide in Turkey.

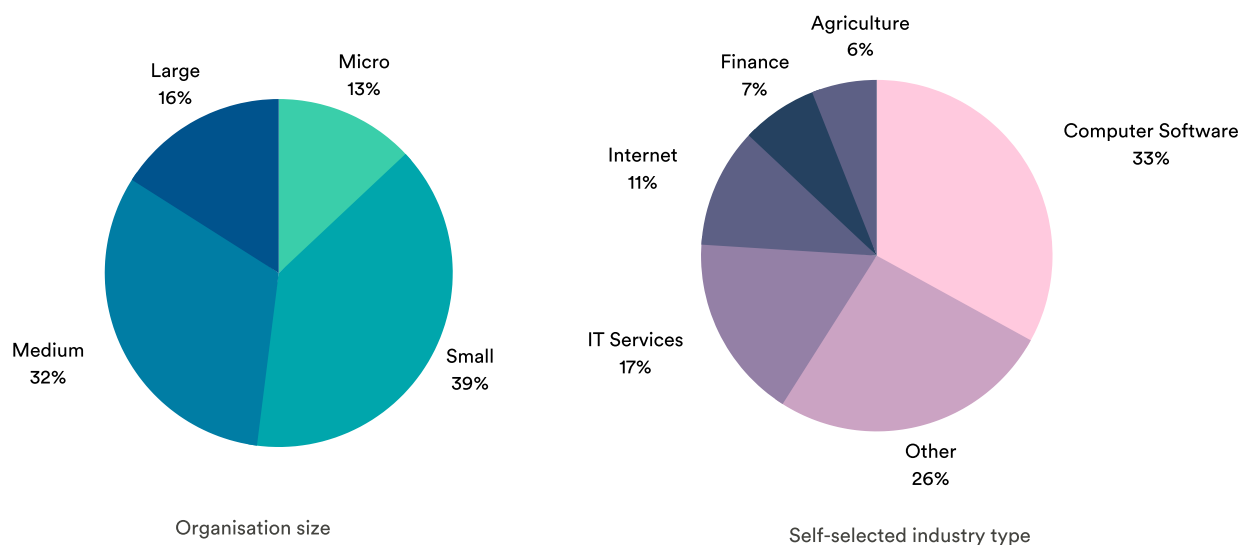
The research employed a two-pronged approach; both employers in the technology sector as well as new graduates from Re:Coded's technical training programs were surveyed to gain a holistic view of the labour market in Turkey. Initial desk research was drawn from available information on the Turkish labour market as well as qualitative and quantitative data<sup>15</sup> on graduates from Re:Coded's technical training programs, derived from its internal monitoring mechanisms, to better understand the challenges these graduates face when entering the labour market. Background research was also conducted on the technology and startup ecosystem in Turkey, to examine existing labour market gaps. The analysis mainly focuses on junior developer and designer roles as key entry points for those interested in starting a career in the digital economy.

This research led to the development of a 36-question survey,<sup>16</sup> which was designed to collect quantitative and qualitative data on recruitment processes in different industries of technology-based organisations in Turkey with an emphasis on designers and developers. For the purposes of this analysis, a technology-based organisation is defined as one that utilises technology to deliver their product or services. The research focused on employers' internal recruitment processes, their needs when hiring designers and developers (with regards to technical and non-technical skill-sets), expected experience levels<sup>17</sup> (junior, mid-level, senior), and employment opportunities for non-Turkish speaking developers and designers based in Turkey. The survey was disseminated to 105 technology-based organisations in Turkey within Re:Coded and Impact Hub Istanbul's existing networks.<sup>18</sup> Each organisation was contacted individually and provided with information detailing the purpose of the survey and why their contributions would be important. The teams followed up with each organisation regularly to ensure we received the maximum number of responses.



## Overview of Survey Respondents

Between February 19 - March 3, 2021, 54 organisations in Turkey filled out the online survey. We initiated contact with organisations through existing relationships with Re:Coded and Impact Hub Istanbul's team members, but we requested that HR managers and team members who are responsible for recruitment complete the survey. Survey respondents self-reported industry type as well as organisation size.<sup>19</sup>



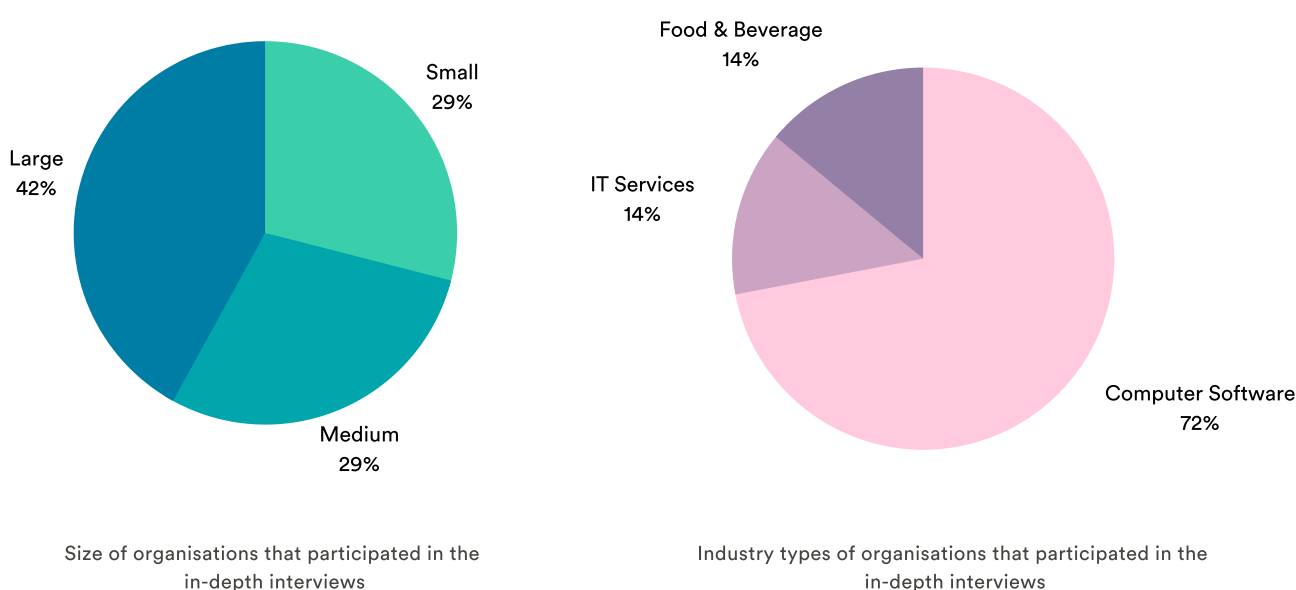
### Industries

Participating organisations selected their industry based on LinkedIn's industry definitions in order to maintain consistency. Variances in industry-type reflect how organisations define their own operations. For example, one organisation surveyed develops technological solutions for environmental sustainability and categorised itself under the "Agriculture" industry, while others that develop technology to streamline HR practices categorised themselves under "Human Resources."

**20% of surveyed organisations are Syrian-led initiatives, representing a subset of organisations with unique challenges and contributions to the digital economy**

In-depth interviews were conducted with a selected sample of organisations to expand upon and augment the survey results. A scoring rubric was developed to determine the respondents for the in-depth interviews, based on each organisation's responses to the survey. Organisations were ranked on a scale of 1 to 4 across six overarching categories, with clear parameters under each category. Factors such as an organisation's recruitment plans were prioritized to gain a more complete understanding of challenges that employers might be facing in recruitment.

For example, if a respondent was planning to recruit more than five junior developers or designers in the next 12 months, they scored higher than an organisation not planning to recruit any new team members in the next 12 months. Each survey response was evaluated and ultimately 16 respondents were selected to take part in the in-depth interviews. Of those, seven organisations agreed to the interviews, all of which were conducted in March 2021. These in-depth interview questions were developed to gain a deeper understanding of the recruitment process, professional development programs, internships, employment opportunities for non-Turkish nationals, operational recruitment challenges, and employers' needs with regards to the skill-sets of early-career developers and designers.



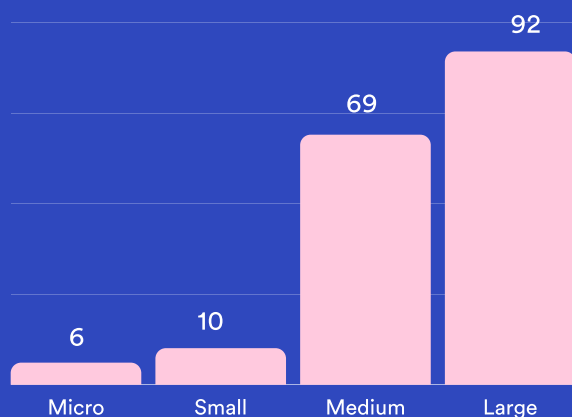
### Limitations of the Research

This research was conducted with a relatively small pool of organisations in the private sector in Turkey. This research is only meant to be a snapshot of the needs and challenges of employers in the study's definition of the technology sector in Turkey. Additionally, this study does not exhaustively include all employees working in technology in Turkey. As the scope of an "IT (Information Technology) team" was not explicitly defined by the researchers, participating organisations self-reported the size and scope of IT teams according to internal definitions. Thus, those working in customer service, digital marketing, robotics, etc. may not be included in these numbers. Further research on the Turkish digital economy would need to be conducted to capture more information on the sector as a whole.

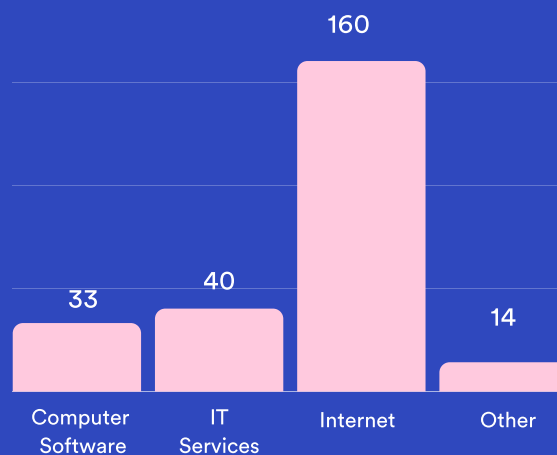
## 4 / Findings – Analysis of the Needs of the Private Sector in Turkey

### Current State of IT Recruitment and Talent Needs

**IT Teams** | Over the past decade, digital technologies have become faster, easier to use, and thus more widely adopted across industries and geographies. Having a designated team devoted to technology transcends industries; as it is estimated that over 90% of jobs worldwide now have a digital component.<sup>20</sup> Expectedly, as technology is central to the core products and services of all surveyed organisations, similar trends were seen in this research. Micro-enterprises self-reported an average of six people on their IT teams; this number increased to an average of 92 in large enterprises.

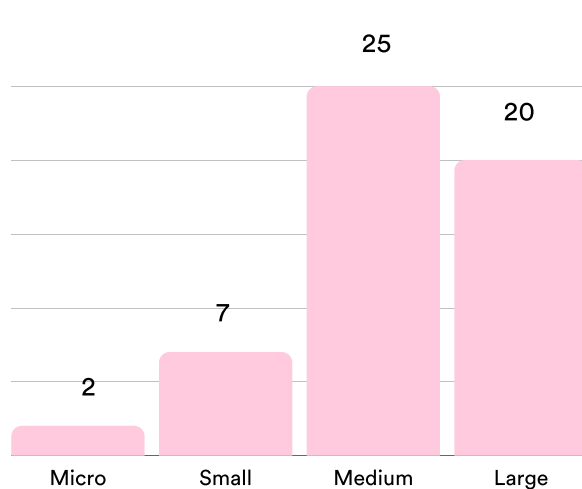


Average number of employees on the IT team by organisation size

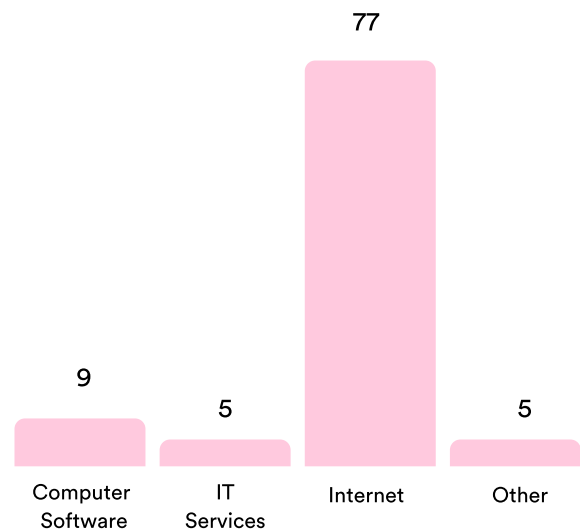


Average number of employees on the IT team by industry

Additionally, despite the rapid global spread of COVID-19 in 2020, 96% of respondents recruited new employees and 93% recruited new IT team members.

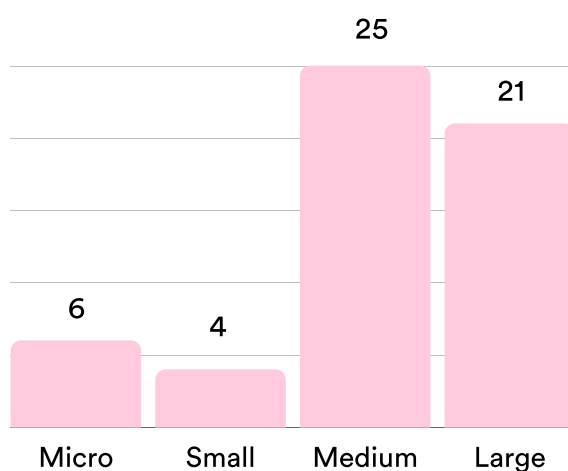


Number of team members recruited for the IT team in 2020 by organisation size

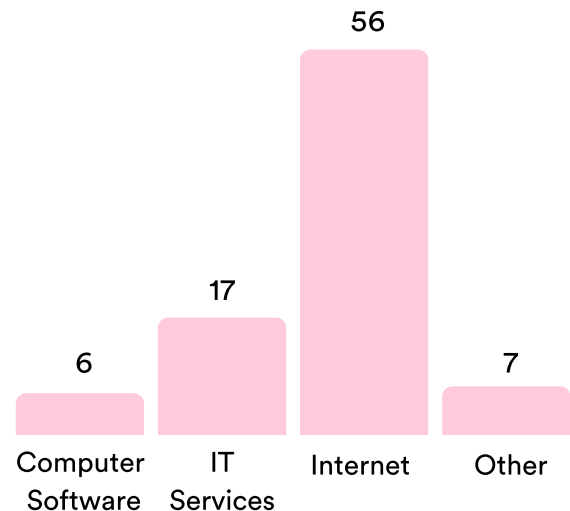


Number of team members recruited for the IT team in 2020 by industry

**Planned Recruitment in IT for Technology-Based Organisations in Turkey** | Despite a global pandemic and an economic downturn in Turkey, of the organisations surveyed, 89% plan to recruit new team members in 2021. Most of these organisations expect to recruit an average of five employees in the next year. Three surveyed organisations were outliers, and plan to recruit 60 or more new team members in 2021.

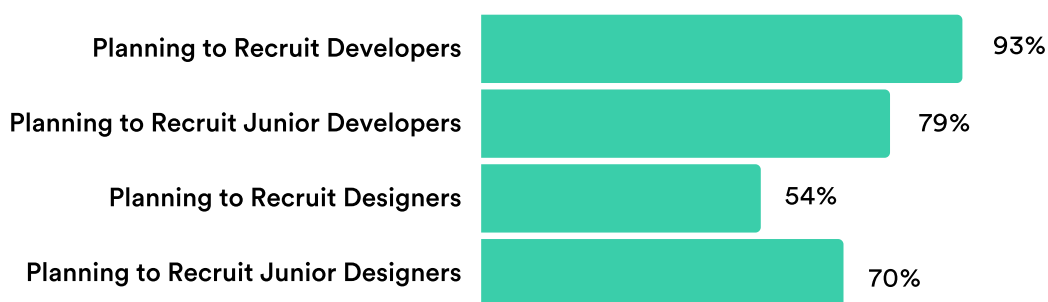


Planned recruitment for IT teams by organisation size



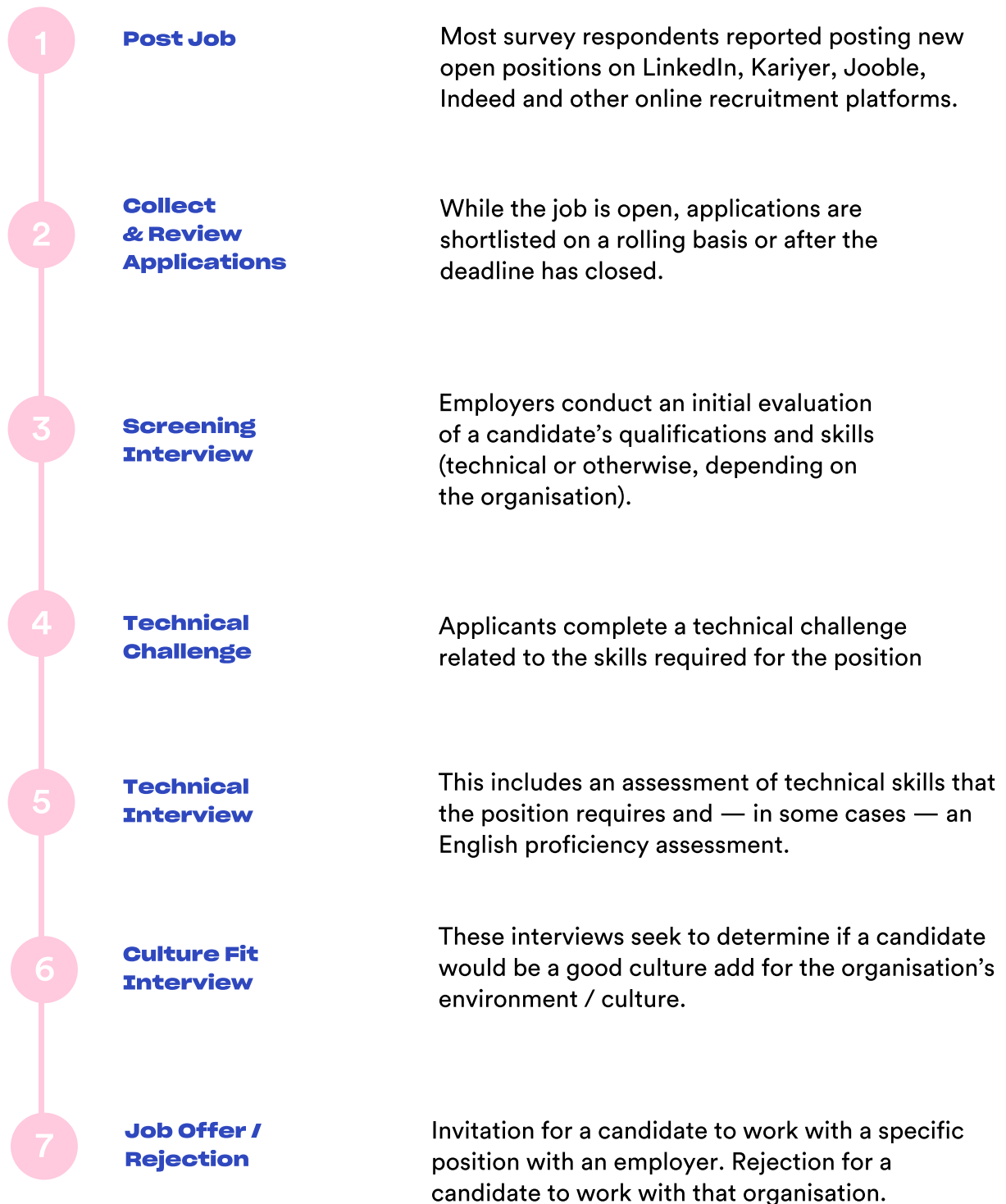
Planned recruitment for IT teams by industry

In order to gain a better understanding of positions that they were looking to hire in the next 12 months, respondents were asked if they are planning to recruit any developers and designers (at any level), junior developers and junior designers, and the technical areas of expertise they plan to hire for. Of those that plan to hire new team members, 93% of respondents plan to recruit developers in the next year, while 79% plan to recruit junior developers. It is also interesting to note that a higher proportion of respondents plan to recruit junior designers (70% of those surveyed), compared to planned recruitment for designers (54%).



Percentage of surveyed organisations that plan to recruit new team members

# Recruitment Process for Most Tech Organisations\*



\*The order of steps may vary slightly from organisation to organisation.



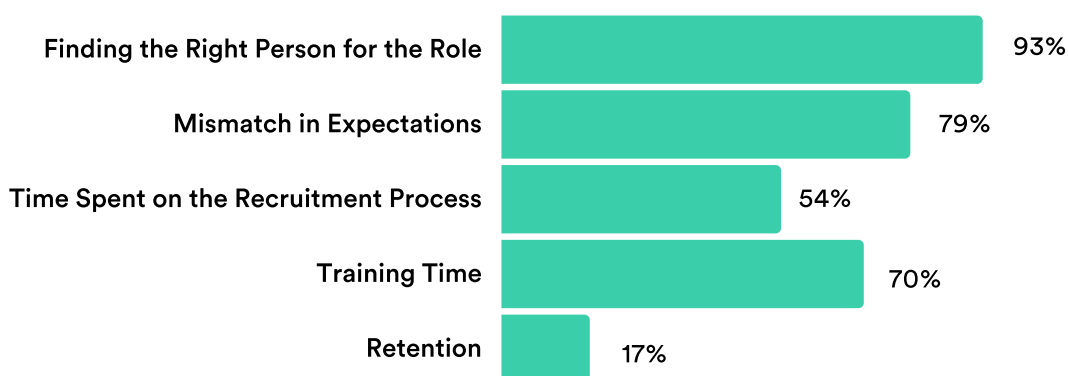
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**We do use a very beneficial tool called Figma to assess UX/UI candidates. However, for front-end, we look if the interns have experience, it's adequate for us if the candidate has similar experiences in the sector and is ambitious to learn about our technologies.**

**(Software Engineer, Medium Enterprise / Computer Software)**

## Recruitment Challenges

To better understand current challenges within recruitment processes, the survey asked participants to share their top three operational challenges when recruiting new developers and designers. Forty-one respondents shared operational challenges they faced in the recruitment process, the most challenging being finding the right, adequately skilled candidates.



Top Operational Challenges in Recruitment of Junior Developers and Designers

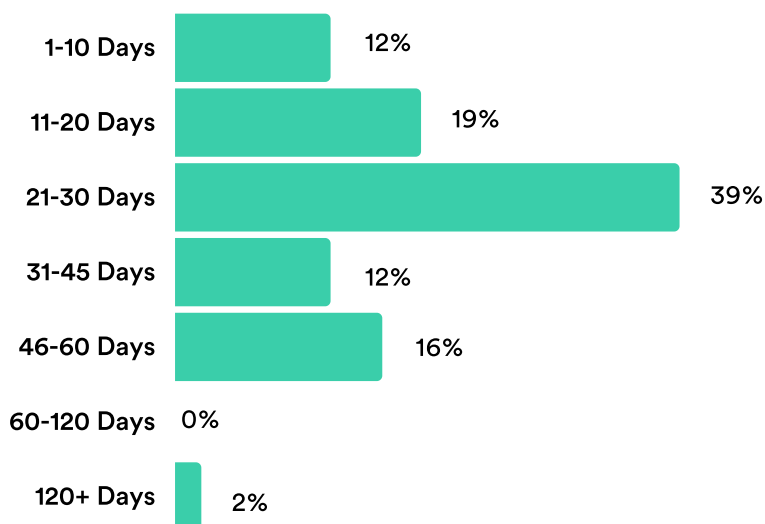


**They are lacking sectoral knowledge and experience. This can be improved with a little more case study studies and/or training.”  
(Medium Enterprise/ Information Technologies)**

Based on qualitative data from open-ended questions in the survey, answers were thematically organised. Five main trends were found in the responses, beginning with sourcing qualified candidates and extending through employee retention.

- **Sourcing Candidates** | Finding the right person for the role posed the most significant challenge, but the precise reasons varied. Some employers stated that they did not know where to post open positions to source qualified candidates; others reported an inability to find candidates with the right experience and set of skills to fill their open positions.
- **Mismatched Expectations** | Employers reported that mismatch in expectations around salaries, working hours, among others, was another significant challenge faced during the recruitment process.
- **Time Spent** | Organisations reported a frustration with the amount of time spent on the recruitment process, which includes posting jobs, reviewing applications and assignments, and interviewing. Recruitment represents a significant internal organisational lift, especially for smaller teams looking to grow; for our surveyed organisations, the average amount of time to recruit junior developers and designers is 21-30 days.

In the United States, employers spend an average of \$3,400 to hire an entry level employee,<sup>21</sup> which accounts for both internal costs (such as salaries, hardware, and software) and external costs (such as advertising costs and recruiter fees).<sup>22</sup> There is not yet any available data in Turkey on average costs per hire but based on survey responses and anecdotal evidence, hiring processes cost employers both time and money.



Average time to recruit a new team member among surveyed organisations

- **Employee Onboarding** | Many employers also reported that time spent training new hires is an additional operational challenge. Even after an organisation finds a candidate to fill an open position, onboarding and training new talent can take three to six months.
- **Employee Retention** | If employers are able to find a suitable candidate and take the time to train them, they have already made a considerable time investment in this candidate. However, many employers have stated that retention was another significant challenge at their organisation. If a candidate leaves the organisation after being both recruited and trained, the cycle must start over from the beginning.



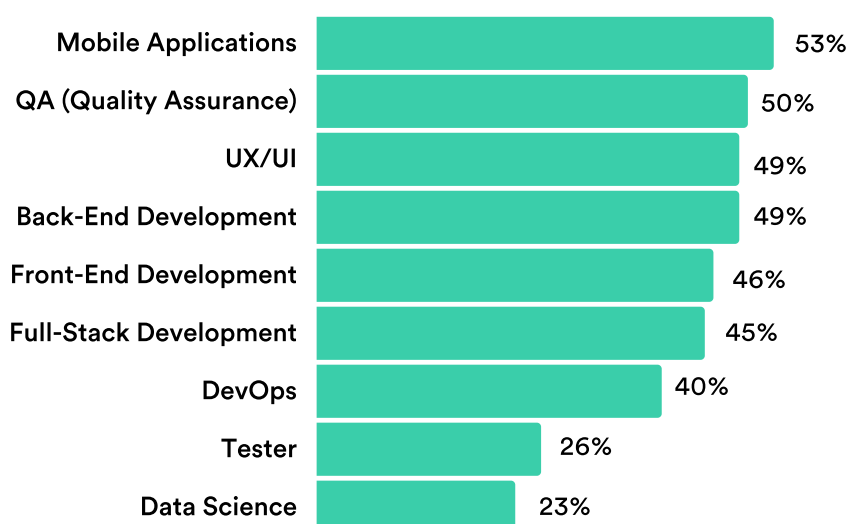
The technical interview takes the most time. The candidate has to complete the test within 5 days. The test takes 90 minutes and we usually return to the candidate with the result within one week. If the result is positive we ask for references. In general this can take 2-3 days.

(Medium Enterprise, 21-30 days for recruiting a new hire)

It's important to note that the degree or scope of these challenges may vary according to the goals, size, or industry niche of an organisation. For example, one Syrian-led organisation named that their top three challenges in sourcing junior talent were: low qualifications in the software sector among Arab youth, language barriers with Turkish counterparts, and the complicated legal processes to hire non-Turkish candidates. We discuss more challenges and opportunities when sourcing and hiring diverse talent on page 17.

### Employers' Emerging Needs

In order to better understand emerging needs among technology-based organisations in Turkey, respondents were asked to name the technical skillsets they plan to recruit over the next 12 months. The five most common responses were, in descending order: mobile applications (53%), QA (50%), UX/UI (49%), back-end development (49%), and front-end development (46%).



#### Top Technical Skills Employers are Planning to Recruit

During the interviews, we also asked the seven interviewees to explain, with more depth, when and why their organisations may hire junior staff and/or for specific skill sets. Their answers demonstrated that the areas for recruitment varied and often depended on needs for the projects and/or their existing team members' expertise and experience. For instance, if a team already has a senior lead, they are more likely to hire junior staff.



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**The most common technical skills that employers are looking to recruit over the next 12 months are Mobile Application, QA, UX/UI, back-end development, and front-end development.**

## Candidates' Skills and Communication Gaps

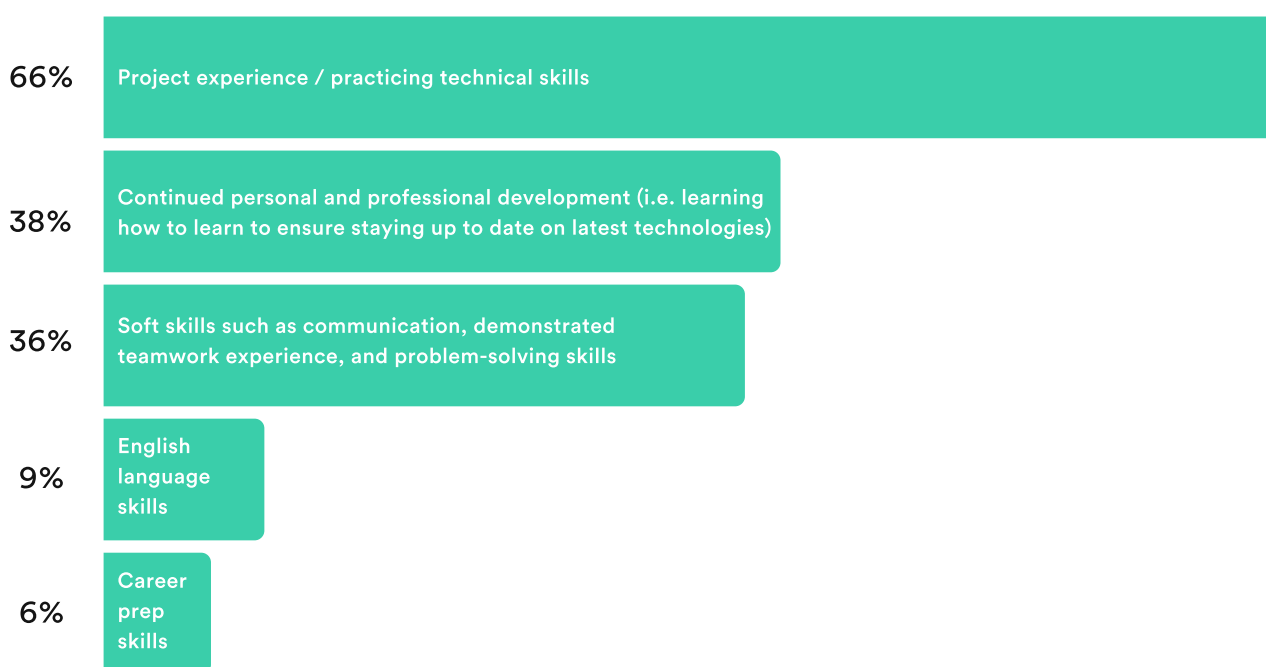
Both in the survey and in-depth interviews, employers were asked to expand on the skills that junior developers and designers are generally lacking. These results should be taken as recommendations from the hiring organisations to young candidates seeking to start a career in the digital economy — as well as to organisations supporting early-career youth in their growth.



**We look at programming languages and the tools they use. Aside from that, we also look to see if a candidate has attended events, competitions, or completed an internship during their time at university. We also are looking to see if candidates attended other relevant programs or bootcamps at other institutions.”**

**(Small Enterprise/ Computer Software)**

The employers expect junior developers and designers to keep themselves up-to-date with the latest technologies in areas that they want to develop their career paths. Besides technical proficiency, they encourage early-career individuals to hone key employability skills (e.g. problem-solving skills, project management, and teamwork), to improve their English language skills, and to practice case studies (e.g. projects that leverage the skill set demanded of a position) to adapt themselves to a real work environment.



Skills that Junior Developers and Designers are Most Commonly Lacking



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**It's important to me that the candidate is open to self-improvement and learning on their own as well as working coherently in a team environment. This is important to us because our team is like a family. I look at candidates' profiles on LinkedIn to see their professional skills but also what their relationships with others are like. All of these details are important for me in choosing the right person for our team.”**

**(Small Enterprise / Food & Beverages)**

Some employers also acknowledged that the problem may not solely lie in technical skills gap, but in potential candidates' ability to communicate their background in a persuasive and effective manner. During the seven in-depth interviews, employers were asked to define the most important characteristic that they look for on a CV or in a portfolio. Overall, employers prefer seeing background information and experiences that are directly relevant to the position. Moreover, candidates should use a format that would enable the employer to see the technical and non-technical skills required for the position as quickly as possible.

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**“We pay attention to the layout of the CV. A plain word document is enough as long as the information it contains is accurate. Since the person who receives CVs works at a fast work pace, the candidate's CV should be read within 30 seconds - and no more. So, the candidate should not literally explain everything about their past experience, but rather keep the most important and relevant points.”**

**(Large Enterprise / Information Technology & Services)**

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**In terms of developers, it would be easier for us to assess the CV if they include their previous projects, their stackflow as well as the companies they have worked with in the past.**

**(Software Engineer, Medium Enterprise / Computer Software)**

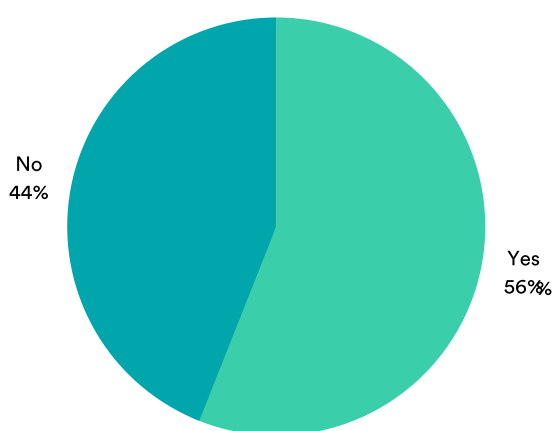


## Emerging Opportunities for Talent Development

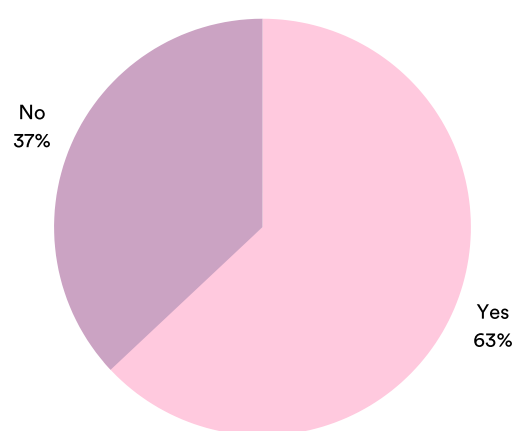
### Internships as a Talent Pipeline

Internships and programs tailored to new graduates are already utilised by some organisations to find the right talent and bridge skills gaps. Thus, we wanted to develop a better understanding of how these programs work among the private sector in Turkey and how successful they have been in finding new talent.

While there is limited research on the benefits of undertaking an internship, it is clear that internship programs will continue to play a role in the labour market for the foreseeable future. In 2018, the ILO conducted research on the benefits of completing an internship program and found that under certain conditions, an internship can contribute to the integration of young people into the labour market.<sup>23</sup> Their analysis also finds that more formal and structured internships (e.g. those with stipends, formal mentorship structures, set durations, and work reflecting that of a full-time employees') are associated with better post-program employment outcomes.<sup>24</sup> Specifically, the ILO found overwhelming evidence that paid internships equate to better post-internship outcomes when compared to unpaid internships particularly in the short-term. Among surveyed organisations that participated in this research that offer internships, the majority are paid.



Surveyed organisations with internship programs



Surveyed organisations with paid internship programs

Similar positive short-term effects were seen among surveyed organisations that have internship programs. It is interesting to note that among the organisations surveyed, the Computer Software industry recruited the highest number of interns.

Our research aligns with wider studies to suggest that sponsoring organisations and young talent both stand to benefit from structured internship programs. While early-career individuals can gain the requisite experience to advance their careers, organisations are able to develop talent that matches their needs. That being said, further research with a wider sample of organisations is required to more precisely understand the benefits of an internship program with a technology-based organisation in Turkey.

“

**We have a summer internship program and we prefer to hire people who came from our internship program who can continue with us as full time employees.**

**(Senior Technical Recruiter,  
Medium Enterprise /  
Computer Software)**



## Recruitment of Non-Turkish Nationals

Refugees comprise a demographic that is well positioned to benefit from fast-paced upskilling training programs and contribute to bridging the global talent gap. Many assessments on refugee resilience in Turkey recommend developing policies and long-term employment mechanisms to ensure that Syrians and other refugees have access to legal employment in the private sector. While the Turkish government has made immense efforts in facilitating legal employment opportunities, such as by providing Turkish citizenship to some refugees<sup>25</sup> as well as legal work permits for 63,789 in 2019,<sup>26</sup> there are still millions of Syrian and other refugees without access to formal employment.

In 2018, TEPAV (The Economic Policy Research Foundation of Turkey) found that 31% of Turkish companies report regulations for employing Syrians as an obstacle in their operations.<sup>27</sup> Despite the legal framework permitting Syrians under temporary protection access to the labour market, 3RP<sup>29</sup> found that language barriers and lack of information on work permit procedures for both parties continue to be challenges for Syrians to join the labour market in Turkey. In addition, according to findings from the Turkish Red Crescent and the World Food Programme,<sup>30</sup> lack of job opportunities,<sup>31</sup> lack of information, lack of skills,<sup>32</sup> and work permits are among the main challenges in accessing the labour market. This challenge is two-fold: first the bureaucratic challenge of applying for and sponsoring work permits is often too arduous for smaller organisations who may not have the institutional capacity to complete the application. Furthermore, there is a negative perception of refugees among some members of the private sector. According to ISKUR,<sup>33</sup> 93.1% of the employers in the ICT sector in Turkey answered that they would prefer to not hire an employee with Temporary Protection status (Syrian, Iraqi, Afghan etc.) because they would have to sponsor a work permit. Both challenges have the potential to be solved with awareness raising campaigns and better public-private partnerships among relevant organisations in Turkey.

**Similar trends were not found among organisations surveyed for this research. The survey questions related to opportunities for employing non-Turkish developers and designers garnered an overall positive response with 91% reporting that they were open to hiring non-Turkish talent.**



Recruitment of Non-Turkish Nationals Among Surveyed Organisations

To further analyse the responses we obtained through the survey, we asked organisations that participated in the in-depth interviews about their experiences and expectations in hiring non-Turkish nationals. Three interviewees shared that they do not have non-Turkish employees yet and they would be open to recruiting those who already have work permits in Turkey. One medium and one small enterprise claimed that they would be open to receiving information about issuing work permits for non-Turkish employees. One of the large enterprises stated that they are not yet open to the idea of issuing work permits that would require sponsorship, especially after the pandemic and the possibilities of remote working. Another large enterprise shared that they now have one non-Turkish employee and since they are a global organisation, they have a dedicated department dealing with work permits.

These varied results suggest that there is room for more awareness raising and collaboration around the potential role non-Turkish nationals can play in the country's technological labor force. Further research among a larger sample would be required to understand the willingness and ability of private sector companies to recruit non-Turkish employees across industries, organisation sizes, and other factors.



## ● 5 / Conclusion & ● Recommendations

While both the pandemic and economic downturn have continued to negatively affect the Turkish economy well into 2021, the country's technology sector continues to grow. However, the common trend found in this research is that those looking to start a career in the Turkish digital economy are not equipped with the skills required to start working as a junior developer or junior designer, and employers struggle to find qualified candidates for open positions.

Further research and analysis will be required to enhance our understanding of the needs of the private sector and opportunities for youth in the digital economy in order to provide a robust evidence base to inform the design of tailored interventions that will ensure the success of Turkey's digital transformation. The results of this research are a snapshot of the current landscape within private sector organisations working in technology in Turkey. As the technology climate is constantly changing and evolving, ongoing research ought to be conducted to identify shifts and emerging trends across the sector.

## Recommendations

Given the current findings, we recommend the following actions to be taken by public, private, and development partners in Turkey:

- Eighty-nine per cent of organisations surveyed plan to recruit new team members in the next 12 months so technical training in the top five technical skills employers are looking for should be prioritised and be made accessible to youth in Turkey interested in joining the digital economy, including refugees.
- Training programs that give participants both the technical and core employability skills (i.e. communication, teamwork, and problem-solving) that employers need should be developed and delivered. These programs should also train participants to learn how to learn, in order to better equip youth to stay up-to-date on the latest technological developments and to learn new technical skills as the sector evolves.
- English-language training should be made accessible to all youth in Turkey with an interest in working in technology, in order to enable them to access training and to start a career in the digital economy.
- The private sector and other organisations delivering career-readiness programs in Turkey should collaborate to ensure that these programs adequately prepare youth to apply for jobs, develop CVs, improve interviewing skills, and ultimately enter the labour market.
- Organisations and private sector companies should partner with one another to develop education-to-employment pipelines, including internships, to shorten the amount of time spent on recruitment.
- Organisations that support legal employment for refugees (i.e. processing work permits, registration for freelancers, etc.) need to partner with the private sector to raise awareness and foster bureaucratic and legal support for formal employment for refugees in Turkey.



# Endnotes

1. Job outcomes are measured by a successful outcome within 6 months of completing an Immersive Course.
2. Alok Singh et al., "The Future of Work in Turkey," McKinsey & Co., Report, February 28, 2020, 3, <https://www.mckinsey.com/featured-insights/future-of-work/the-future-of-work-in-turkey>.
3. Surveyed organisations did not give consent for their information to be shared publicly.
4. The majority of surveyed organisations plan to recruit an average of 5 new team members. However, 3 organisations plan to recruit 60+ new team members.
5. World Bank, ILOSTAT Database.
6. *ibid.* For women, this rate is slightly higher at 30%.
7. "OECD Economic Surveys: Turkey," OECD, Report, January 2021, <http://www.oecd.org/economy/surveys/TURKEY-2021-OECD-economic-survey-overview.pdf>.
8. "Impact of Covid-19 on Refugee Populations Benefitting from the Emergency Social Safety Net (ESSN) Programme: Assessment Report," Turkish Red Crescent Society & International Federation of Red Cross and Red Crescent Societies, Report, May 2020, <https://media.ifrc.org/ifrc/wp-content/uploads/2020/05/Impact-of-COVID-19-on-Refugee-Populations-Benefitting-from-ESSN-Programme.pdf>.
9. Senay Akyıldız, "How has Covid-19 Affected Turkey's Labor Market?" TEPAV (Economic Policy Research Foundation of Turkey), Report, June 2020, [https://www.tepav.org.tr/upload/mce/2020/notlar/how\\_has\\_covid19\\_affected\\_turkeys\\_labor\\_market.docx.pdf](https://www.tepav.org.tr/upload/mce/2020/notlar/how_has_covid19_affected_turkeys_labor_market.docx.pdf).
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11. Nur Sevensan, "Turkey's Tech Startups Make Global Waves," TRT World, October 20, 2020, <https://www.trtworld.com/opinion/turkey-s-tech-startups-make-global-waves-40731>.
12. Bastien Revel, "Turkey's Refugee Resilience: Expanding and Improving Solutions for the Economic Inclusion of Syrians in Turkey," United Nations Development Programme, Report, July 14, 2020, <https://www.tr.undp.org/content/turkey/en/home/library/corporatereports/Turkey-s-Refugee-Resilience.html>.
13. Klaus Schwab, ed., "The Global Competitiveness Report 2019," World Economic Forum, Report, 2019, <http://reports.weforum.org/global-competitiveness-report-2019/>.
14. "2020 Yılı Bilgi ve İletişim Sektörü: İşgücü Piyasası Raporu." İŞKUR (Türkiye İş Kurumu), 2021, <https://media.iskur.gov.tr/45259/bilgi-ve-iletisim-sektoru.pdf> (Note: Only available in Turkish).
15. This information was collected in the form of surveys and 1:1 interviews with program graduates.
16. Survey questions can be found in Annex 1.
17. For the purpose sake of this research the following definitions are used for experience level:
  - Junior: 0–3 years' experience. Some knowledge of programming language/technology stack (e.g. all of the technology required to build an application).
  - Mid-level: 1–3 years' experience. Working professional knowledge of the programming language/stack.
  - Senior: 3+ years' experience. Mastery of the programming language/technology stack.
18. It was also shared on social media but no responses came from those platforms.
19. The OECD definition for SMEs in Turkey and Europe (OECD, 2021) was used to categorise organisation size in the survey. Respondents selected the definition that fits their organisation. OECD, "Enterprises by Business Size," 2021, <https://data.oecd.org/entrepreneur/enterprises-by-size.htm#:~:text=In%20small%20and%20medium%2D sized,employ%20250%20or%20more%20people>.

## Endnotes (cont.)

20. Phumzile Mlambo-Ngcuka, "Reshaping the Future: Women, Girls and Tech for Development," ITU News, February 9, 2018. <https://news.itu.int/reshaping-future-women-girls-icts/>.

21. Alexandra Johnson, "Cost Per Hire [And All You Need to Know About It]," Harver (blog), January 10, 2019, <https://harver.com/blog/cost-per-hire/>.

22. "Cost-Per-Hire: American National Standard," Society for Human Resource Management Society & American National Standards Institute, February 8, 2012, [https://www.shrm.org/ResourcesAndTools/business-solutions/Documents/shrm\\_ansi\\_cph\\_standard.pdf](https://www.shrm.org/ResourcesAndTools/business-solutions/Documents/shrm_ansi_cph_standard.pdf).

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24. *ibid.*

25. "Türkiye'deki Suriyeli Sayısı Mart 2021," Mülteciler Derneği, 2021, <https://multeciler.org.tr/turkiyedeki-suriyeli-sayisi/>. (Note: Only available in Turkish.) According to a statement from Turkish Ministry of Interior, as of December 2019, 110,000 Syrians had been granted Turkish citizenship. However there is no recent publicly available citizenship data.

26. "2019 Labour Statistics," Çalışma Genel Müdürlüğü, 2020, [https://www.csgeb.gov.tr/media/63359/calisma\\_hayati\\_2019.pdf](https://www.csgeb.gov.tr/media/63359/calisma_hayati_2019.pdf)

27. "Syrian Entrepreneurship and Refugee Start-ups in Turkey: Leveraging the Turkish Experience," Türkiye Ekonomi Politikaları Araştırma Vakfı - TEPAV, August 26, 2019, <https://www.tepav.org.tr/en/haberler/s/10023>.

28. Adoption of the Regulation on Work Permits of Foreigners under temporary protection on 15 January 2016, reduction on work permit fees for Syrians under temporary protection and working in seasonal agriculture and animal husbandry with work permit exemption have created a legal framework for Syrians under temporary protection to access the labour market.

29. "Regional Refugee and Resilience Plan in Response to the Syria Crisis: Turkey" 3RP, January 2020, <http://data2.unhcr.org/en/documents/details/68618>

30. "Refugees In Turkey: Livelihoods Survey Findings," Turkish Red Crescent & World Food Programme, 2019, [https://reliefweb.int/sites/reliefweb.int/files/resource/s/Refugees%20in%20Turkey\\_Livelihoods%20Survey%20Findings\\_TRC\\_WFP\\_2019.pdf](https://reliefweb.int/sites/reliefweb.int/files/resource/s/Refugees%20in%20Turkey_Livelihoods%20Survey%20Findings_TRC_WFP_2019.pdf).

31. *ibid.* The Livelihoods Survey Findings states that lack of job opportunities is an even greater barrier to employment for refugees with a university degree.

32. *ibid.* The Livelihoods Survey Findings states that 23% of the survey participants reported lack of skills as a barrier to employment, and nearly 30% of those participants have no formal education. However, it is important to highlight that 16% of the refugees with a university degree also reported challenges with regards to degree equivalence, which results in the absence of a required diploma and/or certification. Thus, refugees with a university degree are not able to obtain employment with their previous education and/or experience. Educated refugees thus find lower skilled work that demands a re-education in new, different skills.

33. "2019 Yılı İşgücü Piyasası Araştırması: Bilgi ve İletişim Sektörü Raporu." Türkiye İş Kurumu - İŞKUR, 2019. <https://media.iskur.gov.tr/35495/bilgi-ve-iletisim-sektoru.pdf> (Note: Only available in Turkish).

# ● **Annex 1: Survey**

## ● **Questions (English)**

1. Full Name

2. Organisation Email Address

3. What is your position in the organisation?

4. Organisation Name (short-answer)

5. Organisation Size (drop-down selection)

- Micro Enterprise
- Small Enterprise
- Medium Enterprise
- Large Enterprise

6. Sector (drop-down list)

- Information Technologies
- Environment
- Education
- Electric and Electronic
- Energy
- Finance
- Food
- Construction
- Business and Management
- Culture, Art and Design
- Media, Communication and Publishing
- Automotive
- Health and Social Services
- Sports and Recreation
- Agriculture
- Textile
- Trade
- Social and Personal Services
- Tourism, Accommodation, Food and Beverage Services
- Transport, Logistics and Communication
- Other

7. Industry (drop-down list)

- Computer Software
- HR Software
- Computer & Network Security
- Marketing & Advertising
- Broadcast Media
- Information Technology & Services
- Professional Training & Coaching
- Education Management
- E-Learning
- Architecture & Planning
- Human Resources
- Banking
- Finance
- Fundraising
- Non-profit Organization Management
- Health, Wellness & Fitness
- Farming
- Biotechnology
- Food & Beverages
- Food Production
- Utilities
- Internet
- Games
- Other

8. Establishment Year (short-answer)

9. City (short-answer)

10. How many employees do you have? (multiple-choice)

- 0 (Self-Employed)
- 1-10
- 11-50
- 51-200
- 201-500
- 501+

# Annex 1: Survey Questions (English)

11. How many members are on your organization's IT team? (multiple-choice)

- 0
- 1-2
- 3-4
- 5-7
- 8-10
- 11-20
- If it is more than 20, please specify the number in the selection box "Other"

12. How many employees did you recruit in 2020? (multiple-choice)

- 1-5
- 6-10
- 11-50
- 51-200
- 201-500
- 501+
- We weren't able to do any recruiting in 2020

13. How many people did you recruit for your IT team in 2020?

- 1-5
- 6-10
- 11-50
- 51-200
- 201-500
- 501+
- We weren't able to do any recruiting in 2020

14. In the next year, are you planning to recruit any developers? (multiple-choice)

- Yes
- No
- Additional Notes (short-answer)

15. In the next year, are you planning to recruit any junior developers? (multiple-choice)

- Yes
- No
- Additional Notes (short-answer)

16. In the next year, are you planning to recruit any designers? (multiple-choice)

- Yes
- No
- Additional Notes (short-answer)

17. In the next year, are you planning to recruit any junior designers? (multiple-choice)

- Yes
- No
- Additional Notes (short-answer)

18. If your answer to question 14 and/or 16 is yes, which specializations will you be looking for? (checkboxes)

- UX/UI
- Frontend
- Backend
- Devops
- QA
- Tester
- Full-stack
- Mobile Application
- Data Science
- None
- Additional notes (short-answer)

19. In the next year, approximately how many new team members will you need to recruit? (multiple-choice)

- 0
- 1-2
- 3-5
- 6-8
- 9-14
- Please write down the number you foresee if it is more than 15.
- We do not know yet.

20. Approximately how many recruitments do you foresee in the IT team in the next year? (multiple-choice)

- 0
- 1-2
- 3-5
- 6-8
- 9-14
- Please write down the number you foresee if it is more than 15.
- We do not know yet.



# ● Annex 1: Survey Questions (English)

21. How is the approximate distribution between juniors, mid-levels and seniors when you recruit employees for your IT team, in percentages? (short-answer)  
i.e. ..% Junior/ ..%Mid-Level/ ..% Senior (description)

22. On average, how much time do you need to recruit a new developer after you have opened a new position? (multiple choice)

- 1-10 day
- 11-20 day
- 21-30 day
- 31-45 day
- 46-60 day
- 61-90 day
- 91-120 day
- 120+ day
- Additional notes (short-answer)

23. On average, how much time do you need to recruit a new designer after you have opened a new position? (multiple choice)

- 1-10 day
- 11-20 day
- 21-30 day
- 31-45 day
- 46-60 day
- 61-90 day
- 91-120 day
- 120+ day
- Additional notes (short-answer)

24. Do you have any internal programs/paths (i.e. young talent program, career development support) that support newly graduates, junior developers and junior designers that are employed at your organization?

- Yes
- No

25. If your answer is yes, please indicate to whom (newly graduates, junior developers, junior designers) and how (i.e. young talent program, career development support) you provide the support. (short answer)

26. Do you recruit developer and designer interns? (multiple-choice).

- Yes
- No

27. If your answer is yes please indicate how many interns do you recruit in a year, the average period for internship, and if they are paid or unpaid. (short-answer)

28. Do you have any foreign employees in your company? (multiple-choice)

- Yes
- No

29. Would you be open to hire a foreign employee who has a residence permit in Turkey? (multiple-choice)

- Yes
- No

30. Do you have any non-Turkish speaking employees in your company? (multiple-choice)

- Yes
- No

31. Would you be open to hire a non-Turkish speaker who is fluent in English?(multiple-choice)

- Yes
- No

32. Does your company hire part-time employees? (multiple-choice)

- Yes
- No

33. What are the top 3 operational challenges your hiring team faces when recruiting a junior developer?" (long-answer)

- Answer 1
- Answer 2
- Answer 3

34. What skills are junior developers most commonly lacking and/or requiring training in? (long-answer)

35. What are the top 3 operational challenges your hiring team faces when recruiting a junior designer?" (long-answer)

- Answer 1
- Answer 2
- Answer3

36. What skills are junior designers most commonly lacking and/or requiring training in? (long-answer)

**re:coded**