eSkills Malta Foundation

DIGITAL SKILLS NATIONAL SURVEY RESULTS

January 2022

eSkills
eSkills Malta Foundation

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eSkills Malta Foundation Final report

In anticipation to the eSkills Malta Foundation Strategy 2019 – 2021 coming to an end, the Foundation have started reviewing this strategy and preparing for the next one. As part of the strategy review, the Foundation commissioned PwC to conduct two online surveys and two virtual workshops were held with industry experts.

One survey was distributed to citizens, for which 322 responses were gathered. The other was targeted towards businesses, for which 70 responses were gathered. The surveys were conducted to understand the level of digital transformation being undertaken and the impact on the skills requirements.

eSkills Malta Foundation Final report

The first workshop was conducted on 19th January 2022 with experts within the education and technology field of study. The second workshop was conducted on 20th January with experts from industry with a key interest in digital skills. During the workshops, the survey results were presented to the panel of experts. Providing solid ground for discussions, which yielded valuable insights.

In this report the results of both surveys are presented and discussed. *Notes from the eSkills Workshops output can be found here: https://bit.ly/3vvW1lj*

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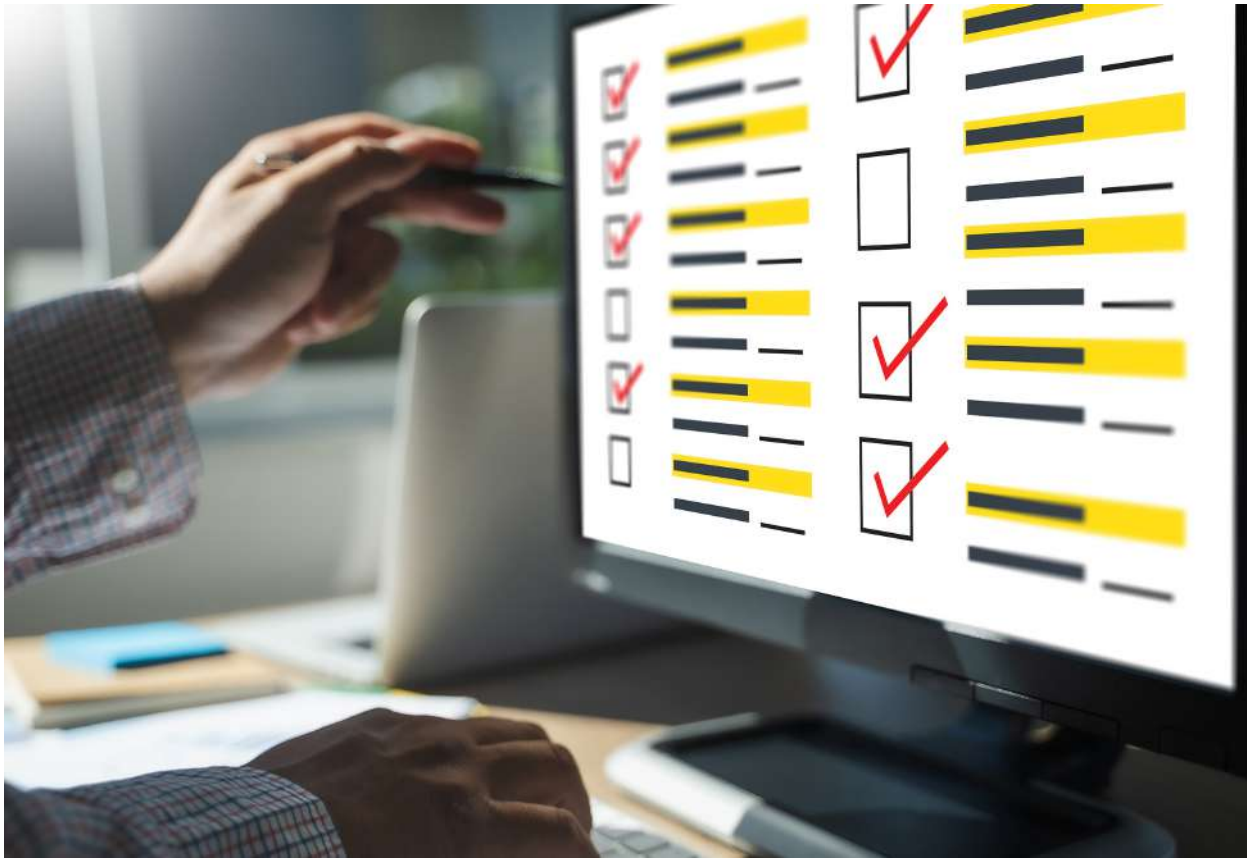
Citizen survey results

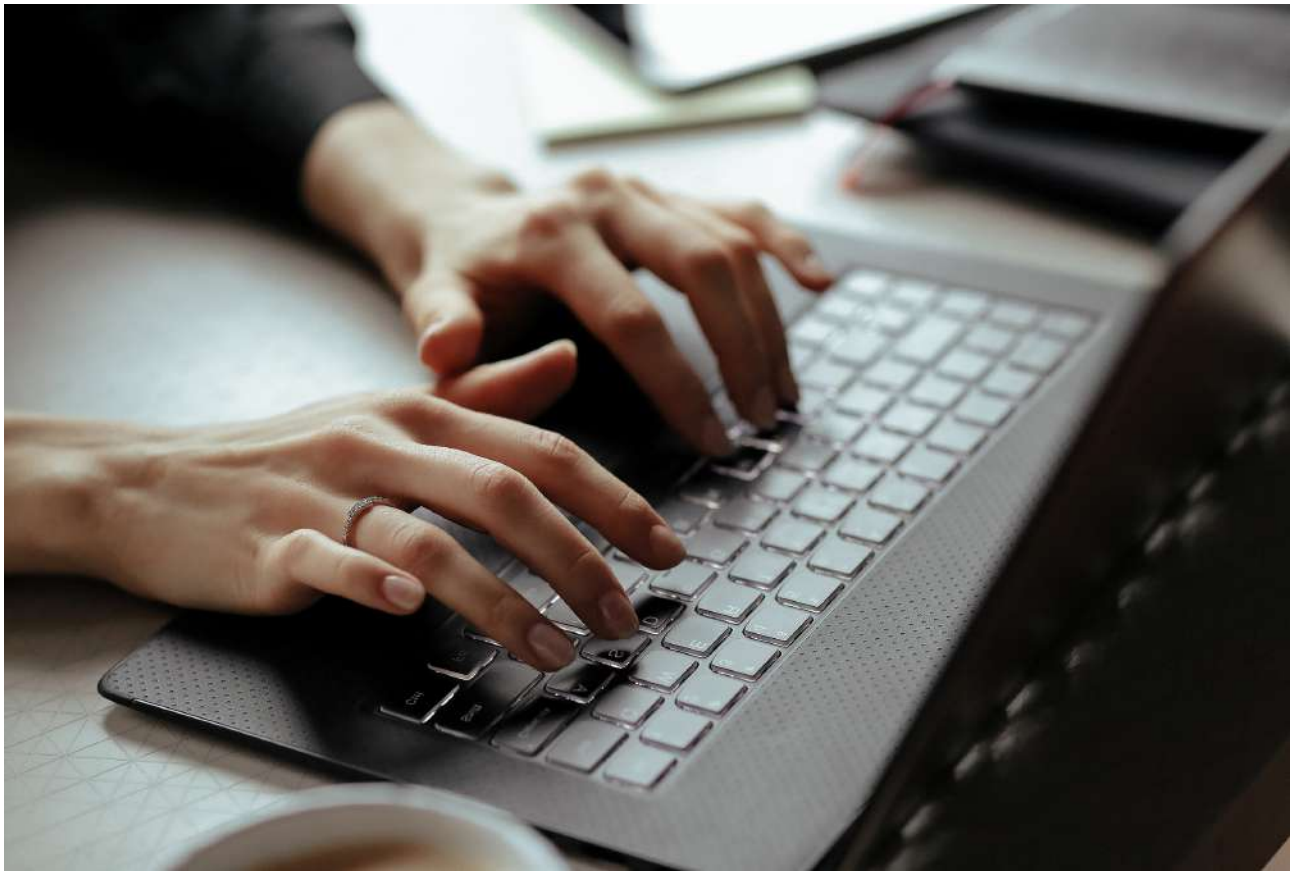
Citizen survey introduction



A survey was distributed to the public through social media platforms to gather data on the ability of the public to use digital technologies that are widely adopted in today's society. The survey included questions regarding the following topics:

- Digital devices the public has access to
- Ability of the public to use various digital tools
- Ability of the public to protect themselves against cyber scams
- Willingness of the public to learn new digital skills

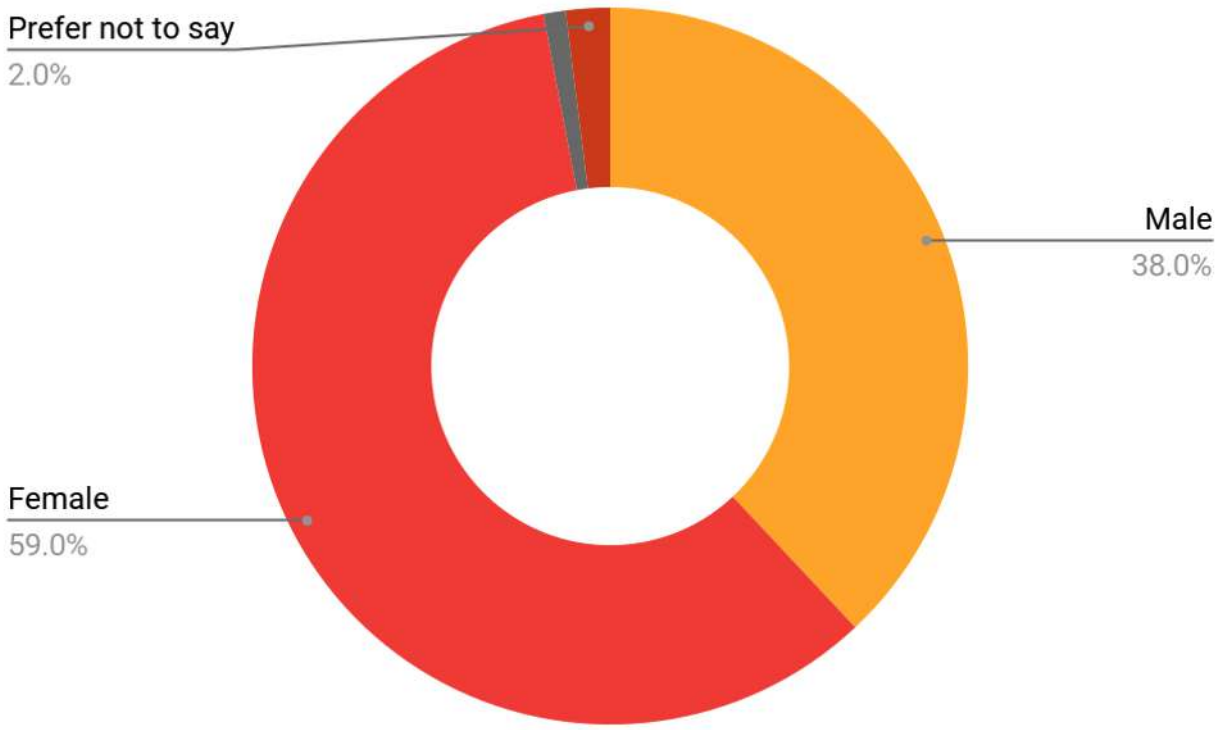
Citizen survey introduction



In total, 322 responses were collected. The results were shared during a workshop held with experts within the education and technology field of study. The data gathered from the surveys provide valuable insights and considerations to be adopted within the next eSkills Malta Foundation strategy. Within this section of the report we outline the results gathered from the survey.

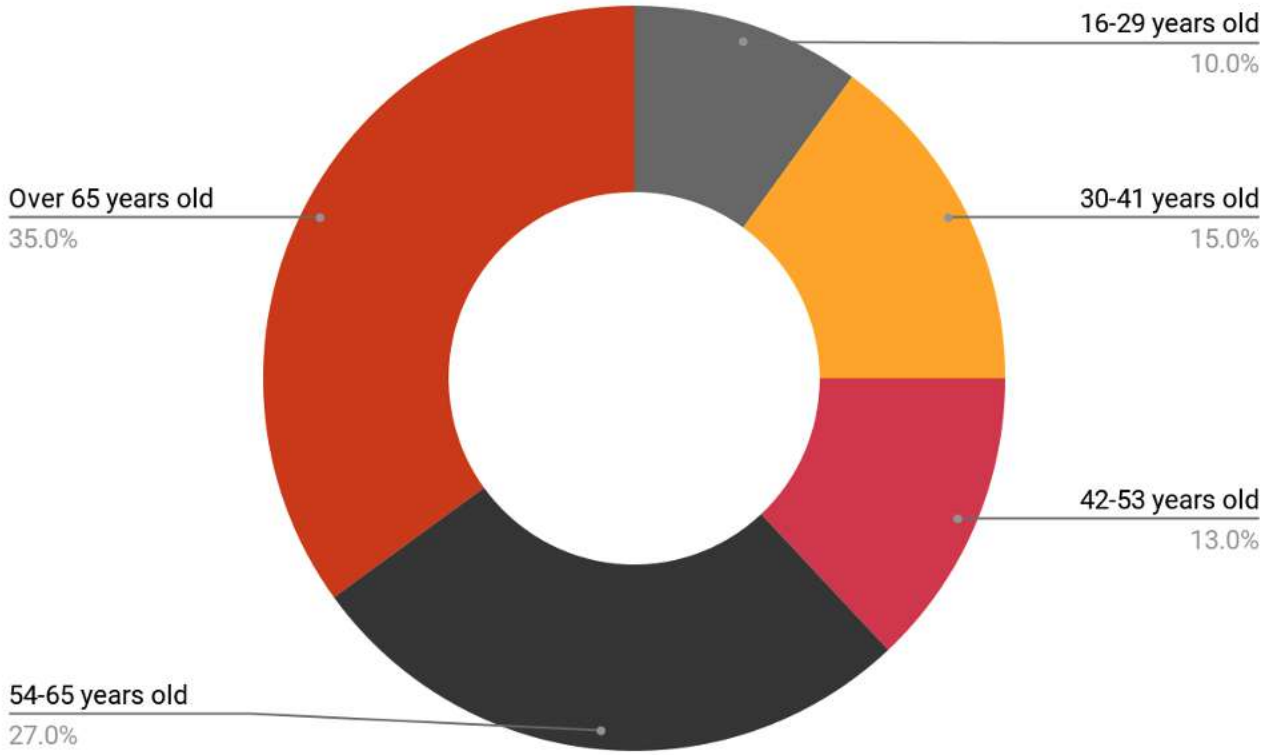
Descriptors

The majority, 59%, of the respondents are female, 38% of the respondents are male, 2% preferred not to say and 1% identify themselves as other.



Descriptors

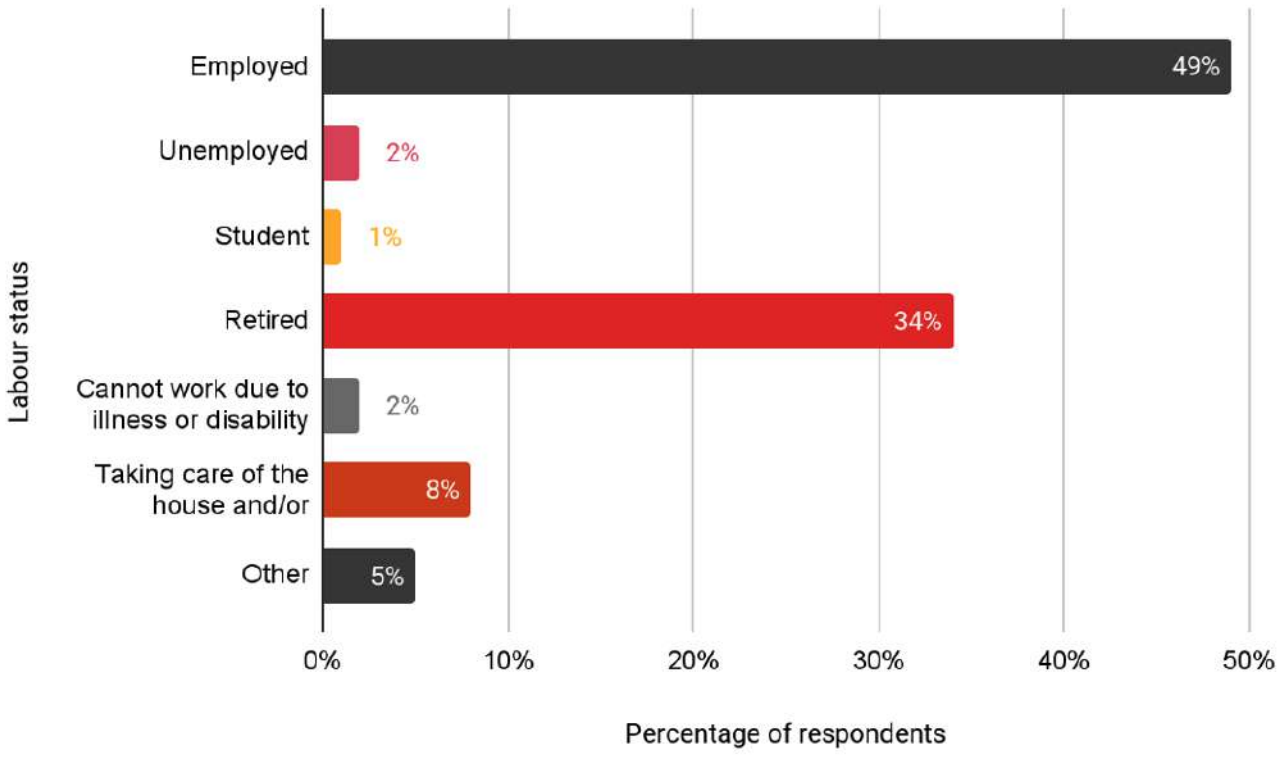
The majority, 62%, of the respondents are 54 years of age or older, 10% of the respondents are between 16 and 29 years old, 15% are between 30 and 40 years old and 13% are between 42-53 years old.



Descriptors

Labour status

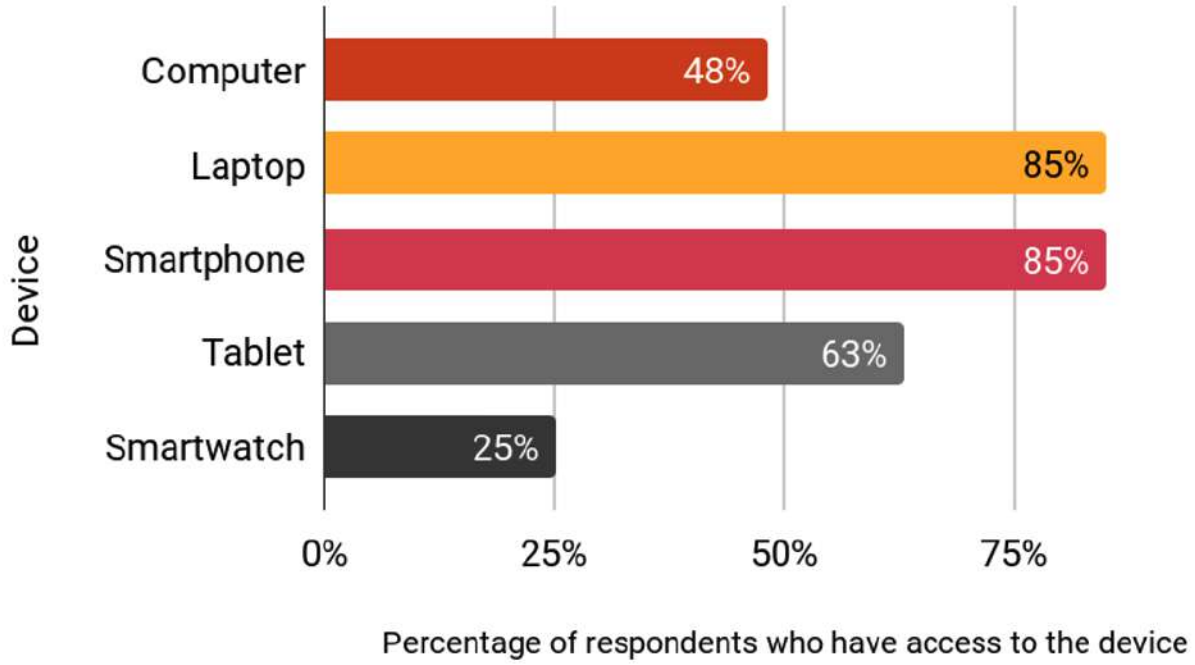
As is displayed in the graph adjacent the majority of the respondents are employed (49%). The second most prominent group of respondents are retired, which corresponds to the age distribution. Students are the least represented in the respondents sample. This is noteworthy as, generally speaking, students may have more advanced digital skills in comparison to other parts of the population.



Descriptors

Question: What devices do you have access to:

Almost all respondents have access to a laptop and/or smartphone. The tablet is the second most owned device among the respondents. Whereas less than half of the respondents have access to a computer. This might indicate that portable digital devices are preferred over immobile digital devices. The device the respondents have least access to is a smartwatch, which in comparison to other listed devices is a relatively new product.



Technological equipment

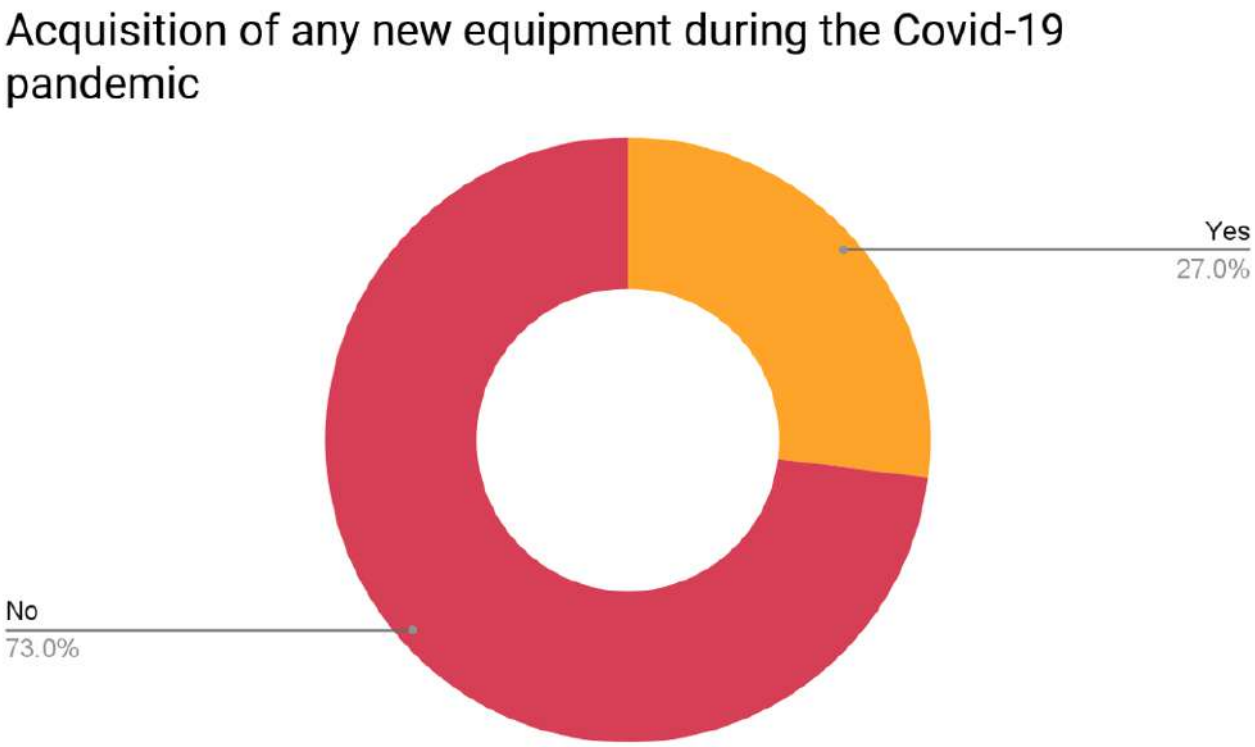
Question: Did you acquire any new equipment (a device or an internet connection) during the Covid-19 pandemic?

Slightly more than a quarter of the respondents (27%) state that they acquired new technological equipment during the Covid-19 pandemic. Indicating that most of the respondents already had access to the digital devices asked about on the previous page.

As per Statista, the global consumer spending on technological devices has decreased by 12.4% as consumers are delaying purchases because of job uncertainty.

In a PwC report about the effect of Covid-19 on the technology industry, it was reported that the Covid-19 pandemic has severely impacted the technology goods & services industry. Most manufacturers are facing shortages due to problems elsewhere in the supply chain.

Technological equipment



Sources:

PwC (n.d.) 'Covid-19 and the technology industry' retrieved from https://www.pwc.com/us/en/library/covid-19/coronavirus-technology-impact.html

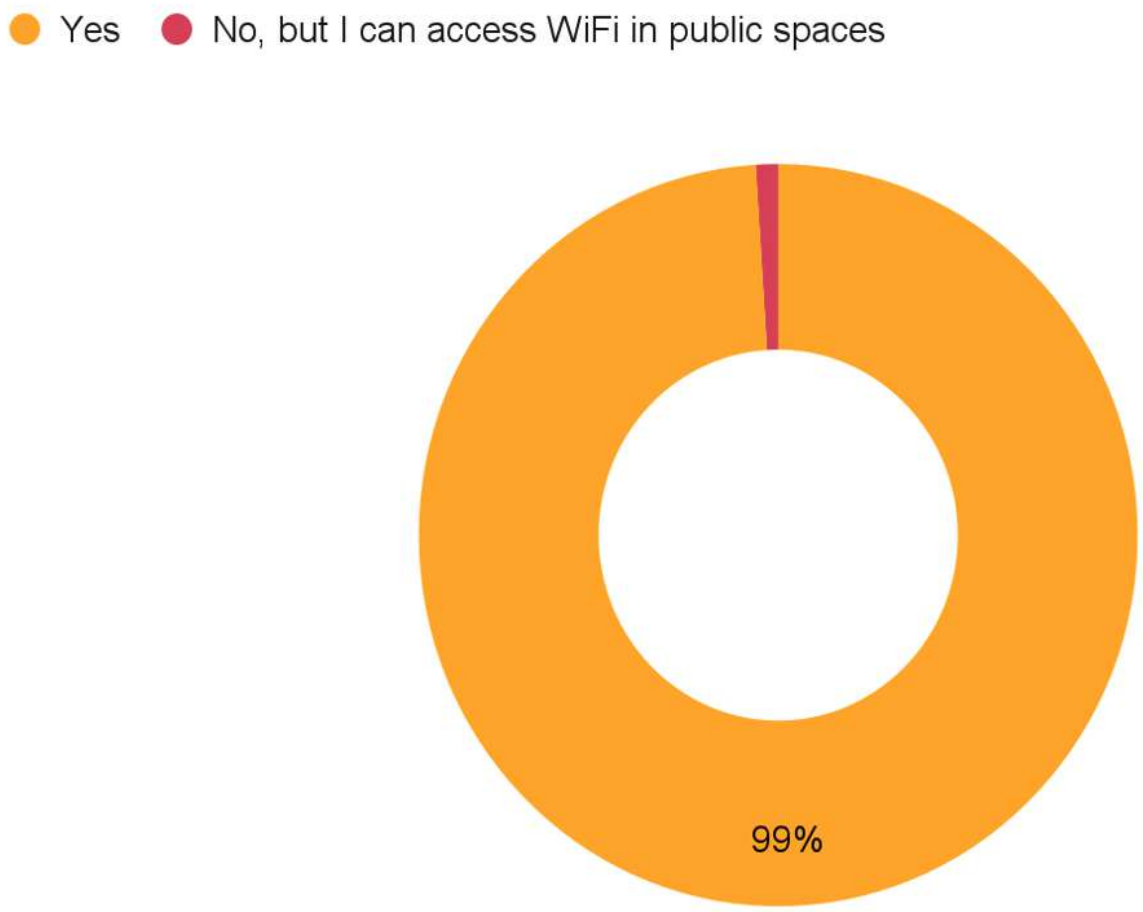
Statista (2021) Coronavirus (Coid-19): impact on the global tech goods & services industry' retrieved from https://www.statista.com/topics/6156/coronavirus-covid-19-impact-on-tech-goods-and-services/#dossierKeyfigures

Internet access

Question: Do you have internet access at home?

All respondents indicated that they have access to the internet, whether at home (99%) or through WiFi within public spaces (1%).

This is relatively high in comparison to the percentage of households that have internet access throughout the European Union, which was found to be 91% according to the latest figures of the Digital Economy and Society Index 2021.



Online entertainment

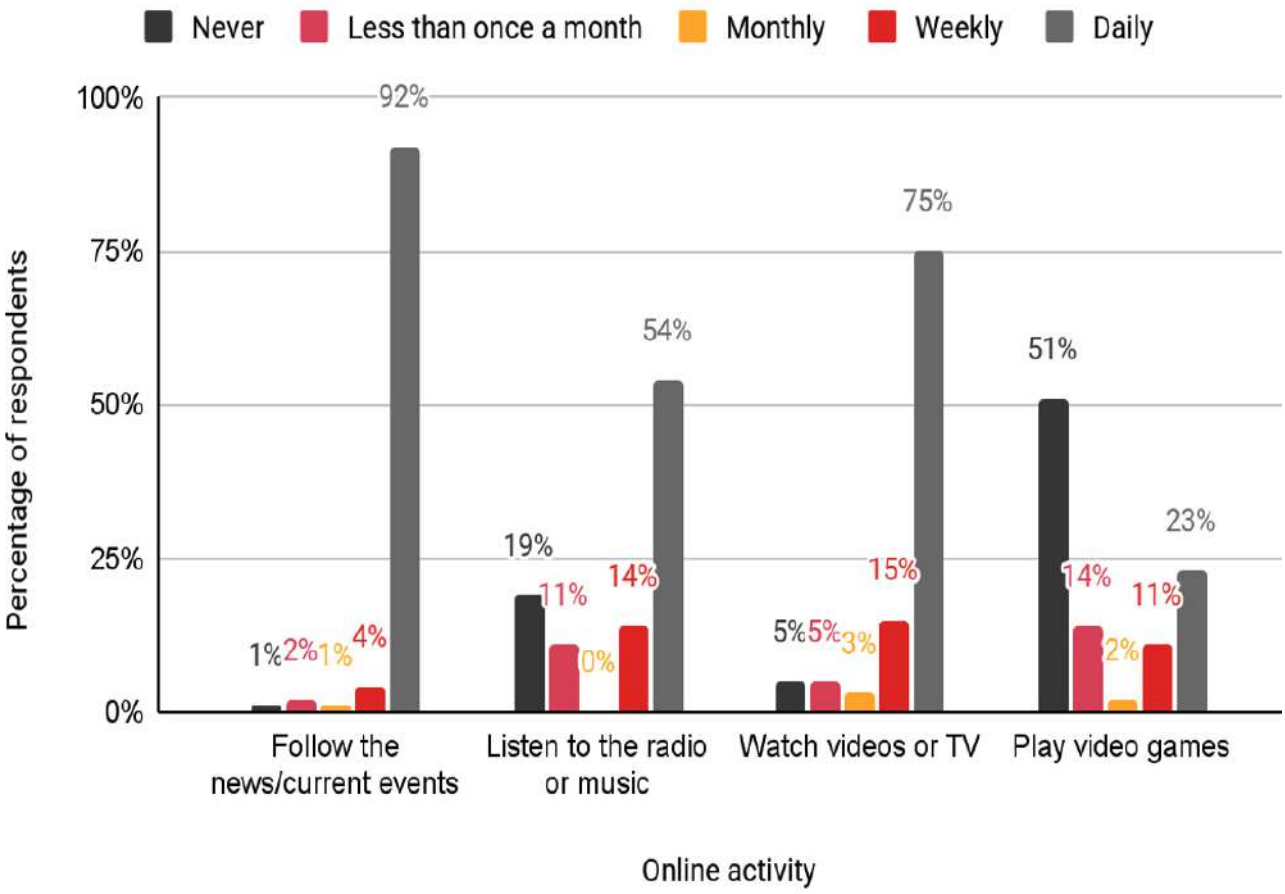
The two most prominent responses when asked how often the respondents conduct the selected activities online was either that they conduct the activity on a daily basis or not at all.

The activities most conducted on a daily basis by the respondents were following the news/current events and watching videos or TV.

Slightly more than half of the respondents listen to the radio or music on a daily basis. This is a relatively low percentage in light of the newly introduced and widely adopted music streaming platforms that significantly increased the ease of listening to music digitally. Almost all respondents (85%) stated that they have a smartphone on which such streaming platforms are easily accessible. Hence, one might have expected the percentage of respondents listening to the radio or music on daily basis to be higher.

The online activity that the most respondents state to never conduct digitally is playing video games. This is in line with what one might expect as accordingly to Statista, the majority of the respondents are over the age of 54, which is the age group that globally plays video games the least.

Online entertainment



Source:

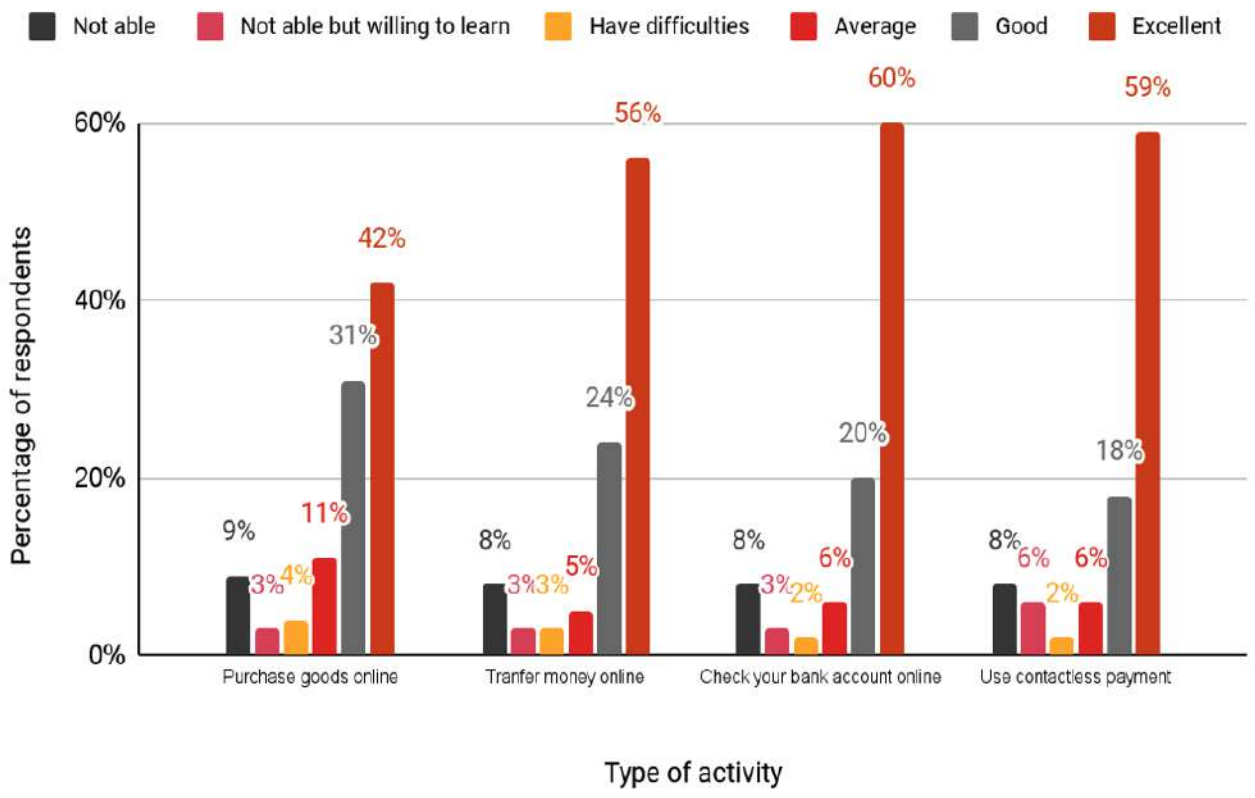
Statista (2021) 'Distribution of video gamers worldwide in 2017, by age group and gender.' retrieved from https://www.statista.com/statistics/722259/world-gamers-by-age-and-gender/

Digital financial resources

Most respondents indicated that their level of performance in all online tasks shown within the graph adjacent to be average, good or excellent.

Approximately 1 of 10 respondents stated that they are not able or not able but willing to learn to purchase goods online (12%). This is relatively low compared to the average throughout the European Union, whereby 20% of the European Union residents lack the skills or knowledge to make online purchases.

Furthermore, 11% of the respondents are not able or not able but willing to learn to transfer money online, check their bank account online (11%) and/or use contactless payment (15%).



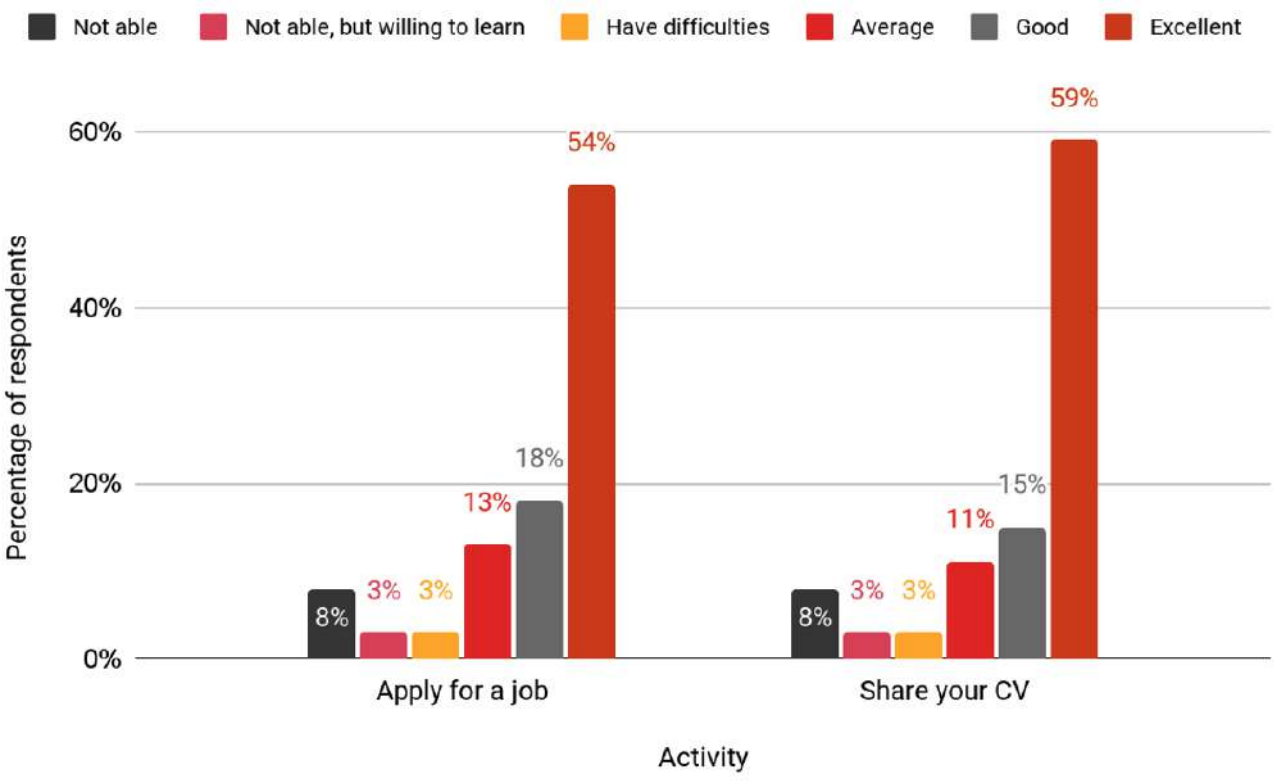
Source:

Eurostat (2021) 'E-commerce statistics for individuals' retrieved from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=E-commerce_statistics_for_individuals#Purchasing_online_and_problems_encountered_.282019_survey.29

Online job search

Question: How do you rate yourself on performing the following tasks online?

The majority of the respondents state that their ability to perform the tasks online indicated in the graph, to be average or above average when applying for a job online (85%) and/or sharing their CV online (85%). Only 11% of the respondents state that they are not able or not able but willing to learn how to conduct these activities online. Furthermore, although vital skills for those either in the workforce or looking to enter the workforce, these are not skills a large part of the respondents need to master given that 34% are retired and a further 2% cannot work due to illness or disability.

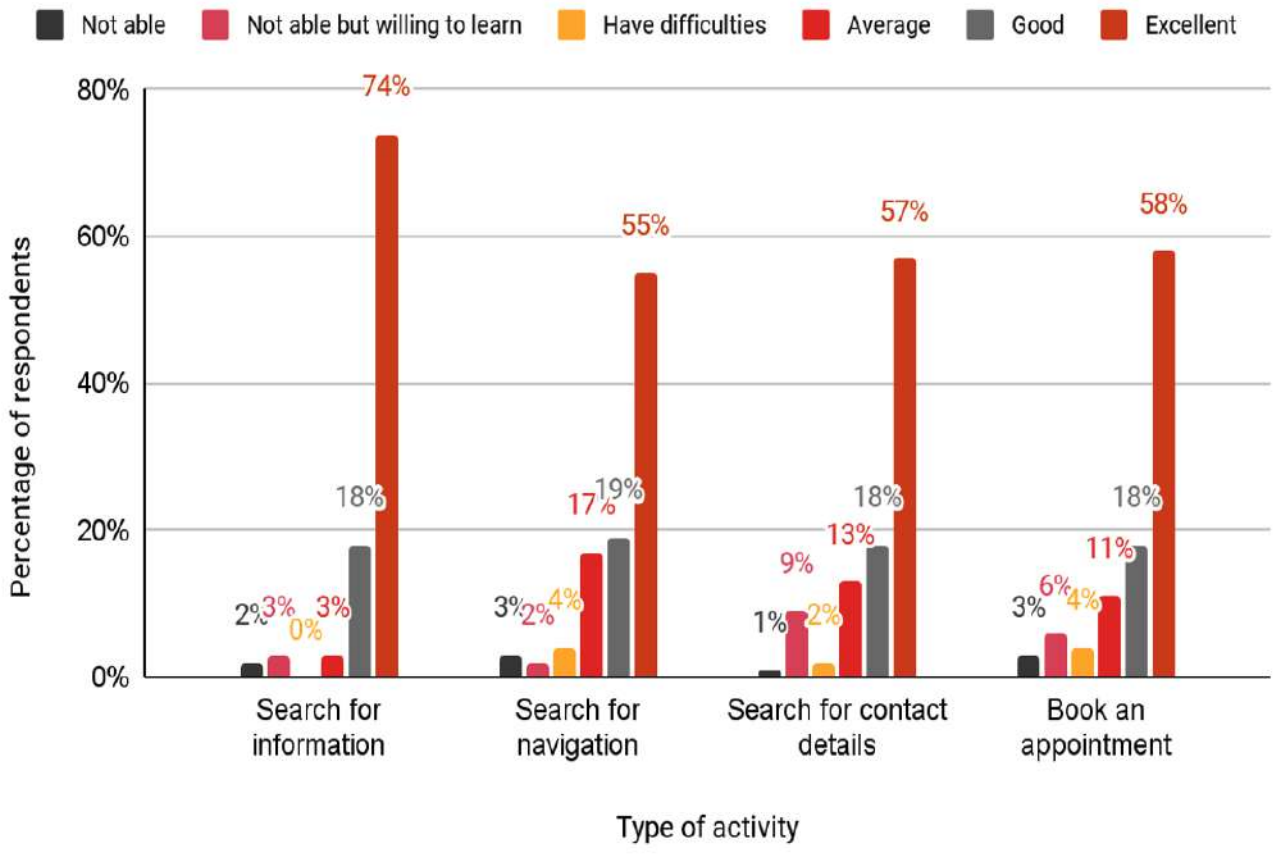


Online research

Question: How do you rate yourself on performing the following tasks online?

The majority of the respondents indicated that their level of skill when performing the tasks listed on the x axis of the graph to be average or above average when searching for: information online (95%), navigation online (91%), contact details online (88%) and/ or booking an appointment online (87%).

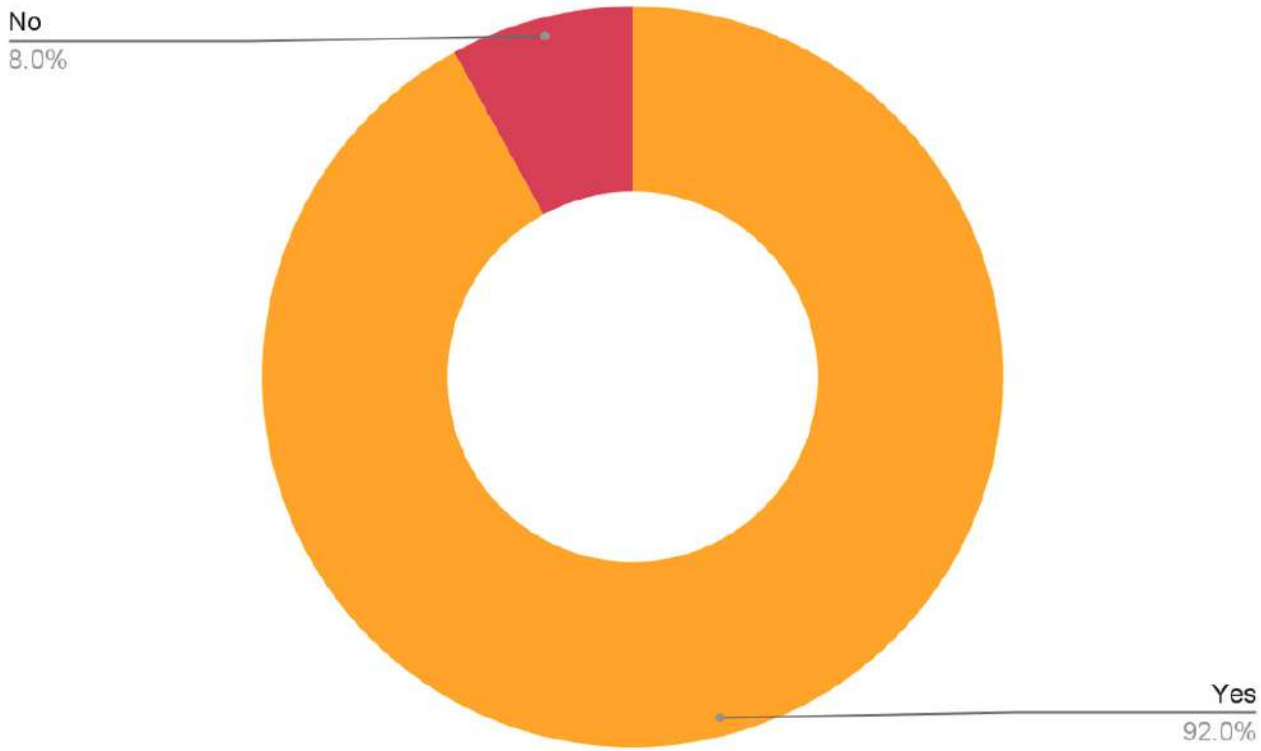
The activities that most respondents are unable to do online are searching for contact details (10%) and booking an appointment (9%).



Online research

Question: When you are conducting research, do you source information from multiple websites?

In regards to searching for information online, respondents were asked whether or not they source information from multiple websites whilst conducting this activity. It is important to note that this does not indicate the reliability of the information found online as multiple sources might provide unreliable information. However, it may indicate the respondents awareness about being cautious about the online sources to rely on when searching for information. The large majority of the respondents (92%) stated that they use multiple sources when searching for information online. Resultantly, one might conclude that the majority of respondents search for information from more than one source in order to compare information.



Storing content digitally

Question: How do you rate yourself on performing the following tasks online?

Almost a quarter of the respondents stated that they are not able to or not able but willing to learn how to store documents on an external drive (21%) and/or store documents on the cloud (24%).

This does not necessarily indicate a negative result, as the majority of the respondents state that their skill level is average or above average at saving documents on a computer (85%).

In 2018, google drive, one of the most used cloud storage platforms, had already surpassed 1 billion users. Furthermore, 50% of all corporate data worldwide is stored on the cloud.

Although the trend is moving towards storage on the Cloud, it is positive to note that 85% of respondents are able to administer the basic skill of saving a document on a computer.

Storing content digitally

In 2018, google drive, one of the most used cloud storage platforms, had already surpassed 1 billion users. Furthermore, 50% of all corporate data worldwide is stored on the cloud.

Although the trend is moving towards storage on the Cloud, it is positive to note that 85% of respondents are able to administer the basic skill of saving a document on a computer.

Sources:

Cloudwards (2022) '26 cloud computing statistics, facts & trends for 2022' retrieved from https://www.cloudwards.net/cloud-computing-statistics/

Accenture (2021) '25 cloud trends for 2021 and beyond' retrieved from https://www.accenture.com/nl-en/blogs/insights/cloud-trends

Communicate online

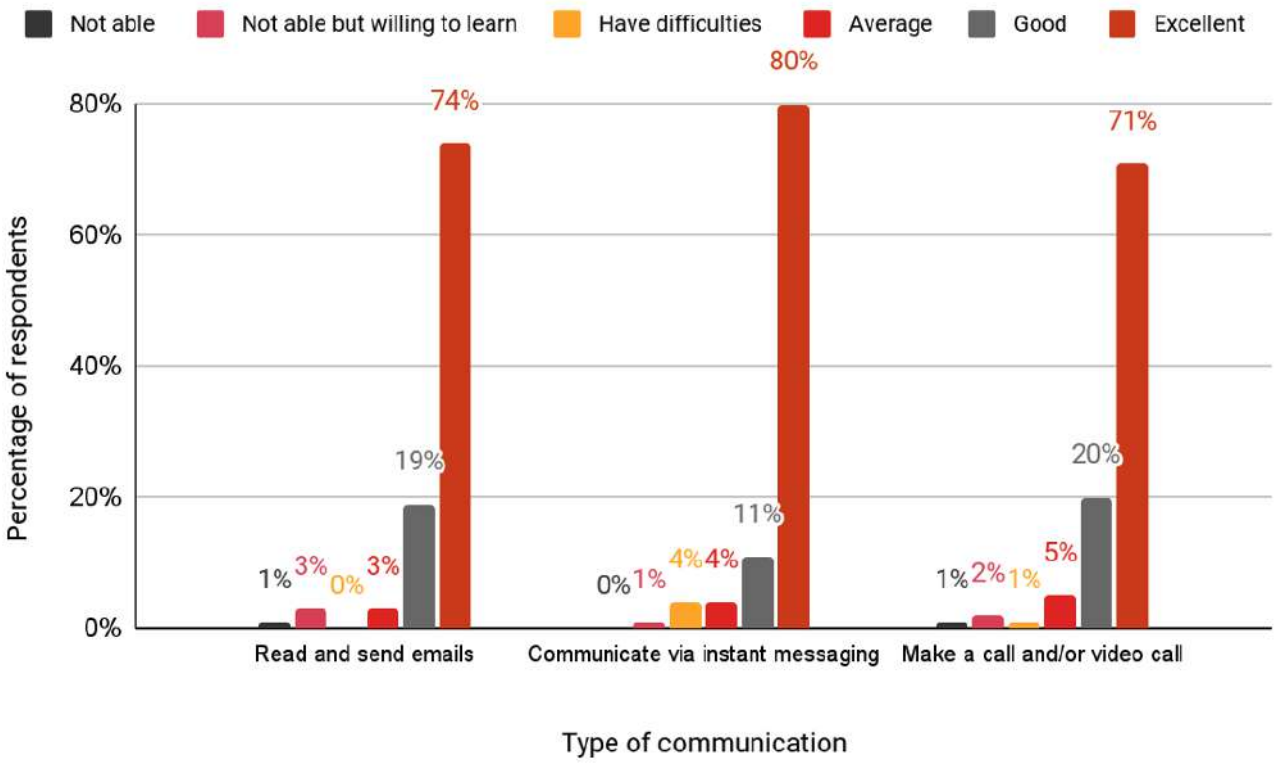
Question: How do you rate yourself on performing the following tasks online?

The large majority of the respondents indicate that they consider themselves to be either good or excellent at reading or sending emails (93%), communicating via instant messaging (91%) and/or calling/video calling (91%).

Online communication was one of the most practical ways to communicate during the Covid-19 pandemic. During the pandemic the use of instant messaging increased by 42%, the use of video calls has increased by 30% and the use of email has increased by 24%.

Communicate online

As such, given the grave importance of online communication in today's society, the results indicated adjacent are very positive.



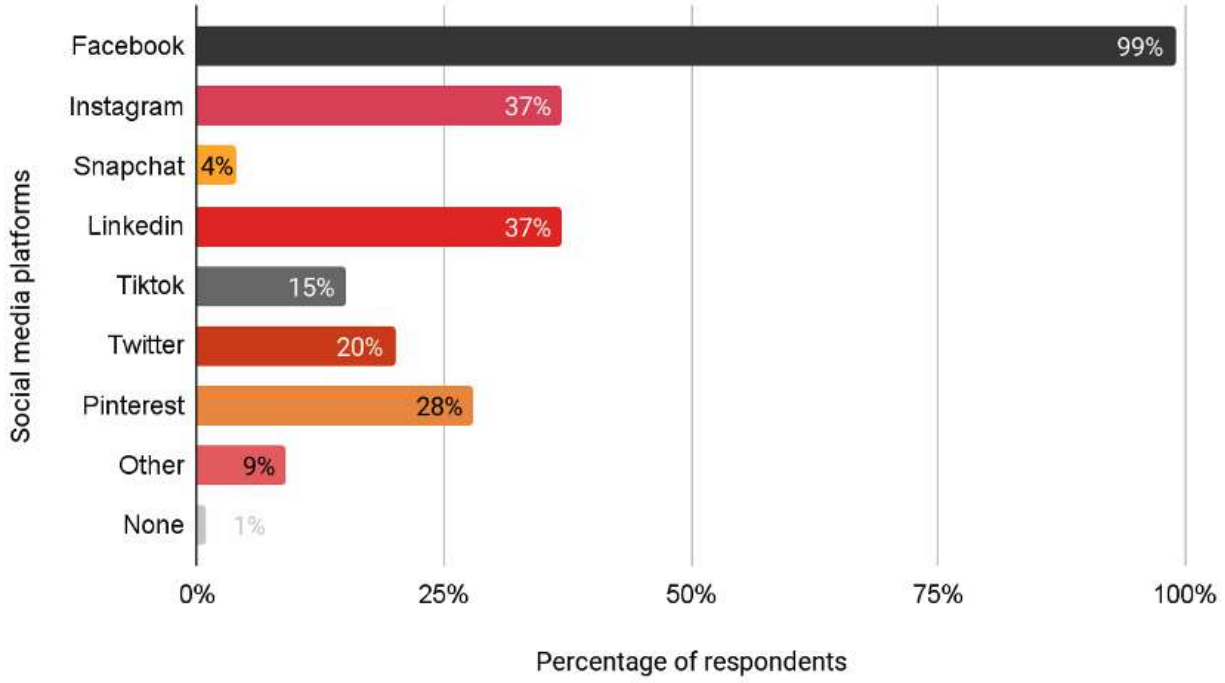
Source:

Fuchs, J., Gruber, J. & Nguyen, M. H. (2020) 'Changes in digital communication during the covid-19 global pandemic: Implications for digital inequality and future research', Sage journals, retrieved from https://journals.sagepub.com/doi/full/10.1177/2056305120948255#:~:text=Overall%2C%20we%20observed%20a%20vast,and%20video%20calls%20(30%25).

Use of social platforms

Question: Which Social media platforms do you use?

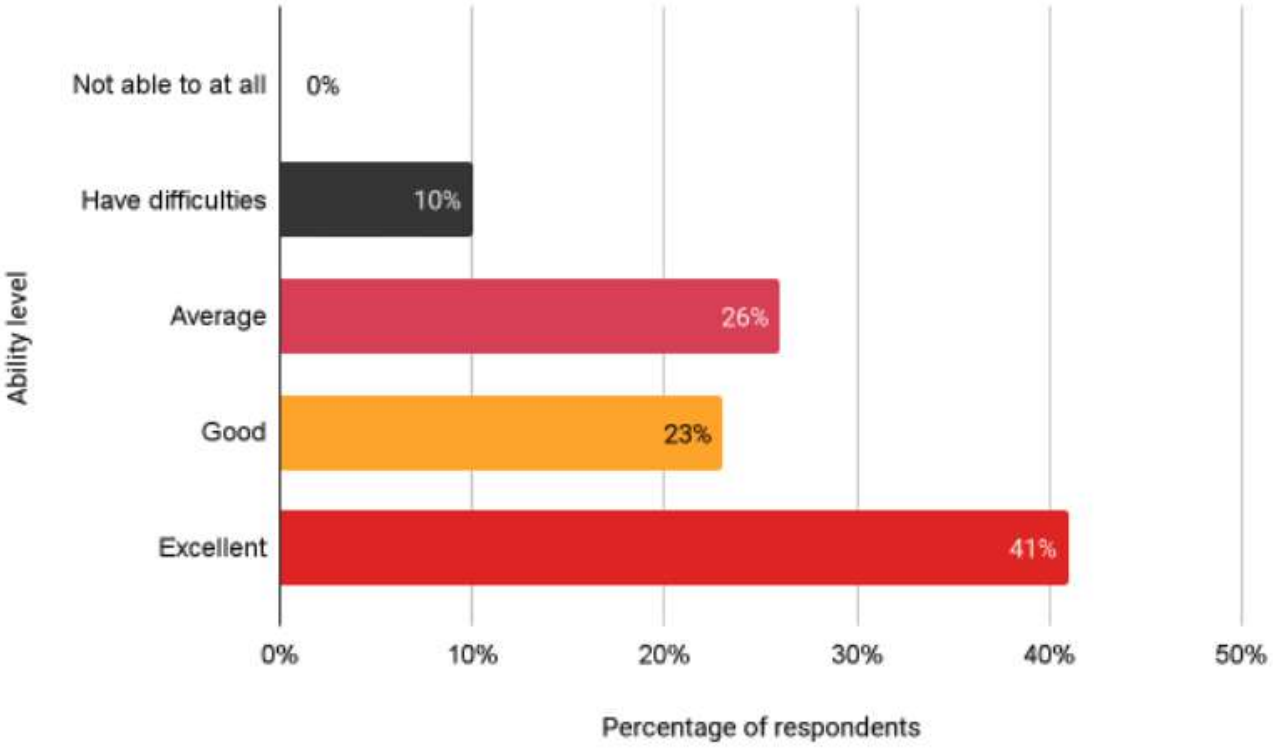
The distribution of the usage of various social media platforms by the respondents is shown opposite. It is important to note that one distribution channel of the survey was Facebook. Hence, the usage of Facebook among the respondents is significantly higher than the other social media platforms.



Use of social platforms

Question: How would you rate yourself on performing the following task: View and publish content on social media networks (e.g. Facebook and/or Instagram stories or posts)?

In line with the previous statistics, the large majority (90%) of the respondents state that their skill set when viewing or publishing content on social media is average or above. Only 10% of the respondents indicate that they have difficulties with conducting this activity and no respondents indicate that they are unable to perform this activity.



Online Government services (1)

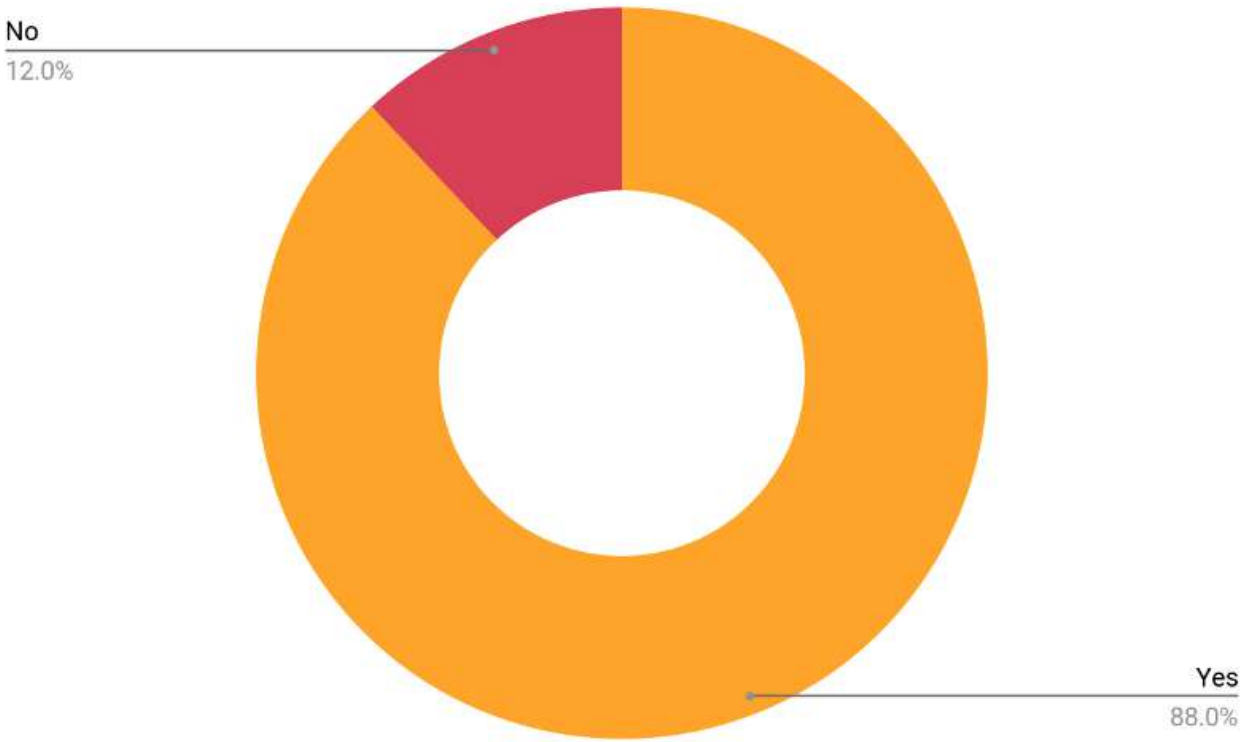
Question: Do you have a Government e-ID?

In March 2021, the European Commission adopted ‘ the 2030 Digital Compass: the European Way for the Digital Decade Communication’. It sets out the European Union’s (EU) digital ambition and proposes a set of specific targets. The progress towards these targets is reported in the digital economy and society index (DESI), which is a report populated annually by the European Commission.

The aforementioned targets include that, by 2030, 80% of the EU residents should be using an government e-ID. According to the DESI 2021 for Malta, 64% of Maltese residents used a Government e-ID in 2020.

Online Government services (1)

The majority of survey respondents have a Government e-ID (88%). Although purely from this survey alone it cannot be confirmed that the 2020 statistic has been improved, it indicates that out of the sample of respondents the vast majority have a Government e-ID.



Sources:

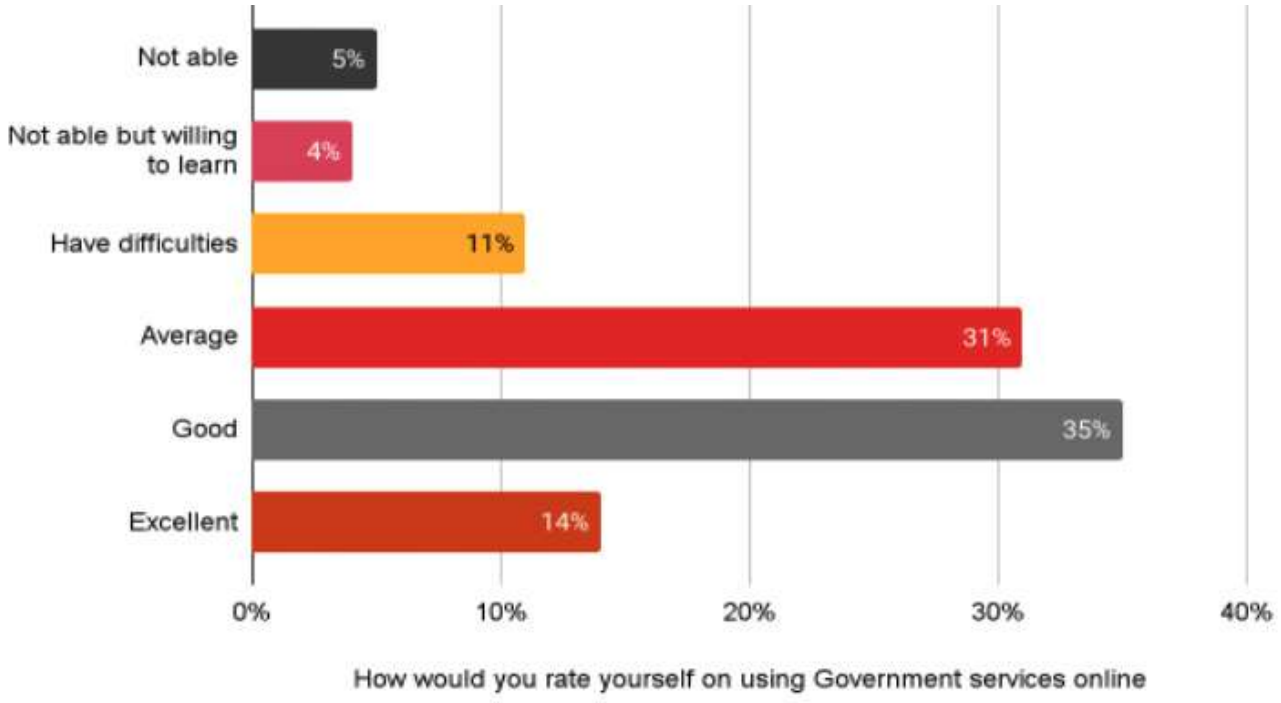
European Commission (2021) 'Digital Economy and Society Index (DESI). Retrieved from https://digital-strategy.ec.europa.eu/en/policies/desi

European Commission (2021) Digital Economy and Society Index (DESI) Malta. Retrieved from https://digital-strategy.ec.europa.eu/en/policies/countries-digitisation-performance

Online Government services (2)

Question: How would you rate yourself on using Government services online?

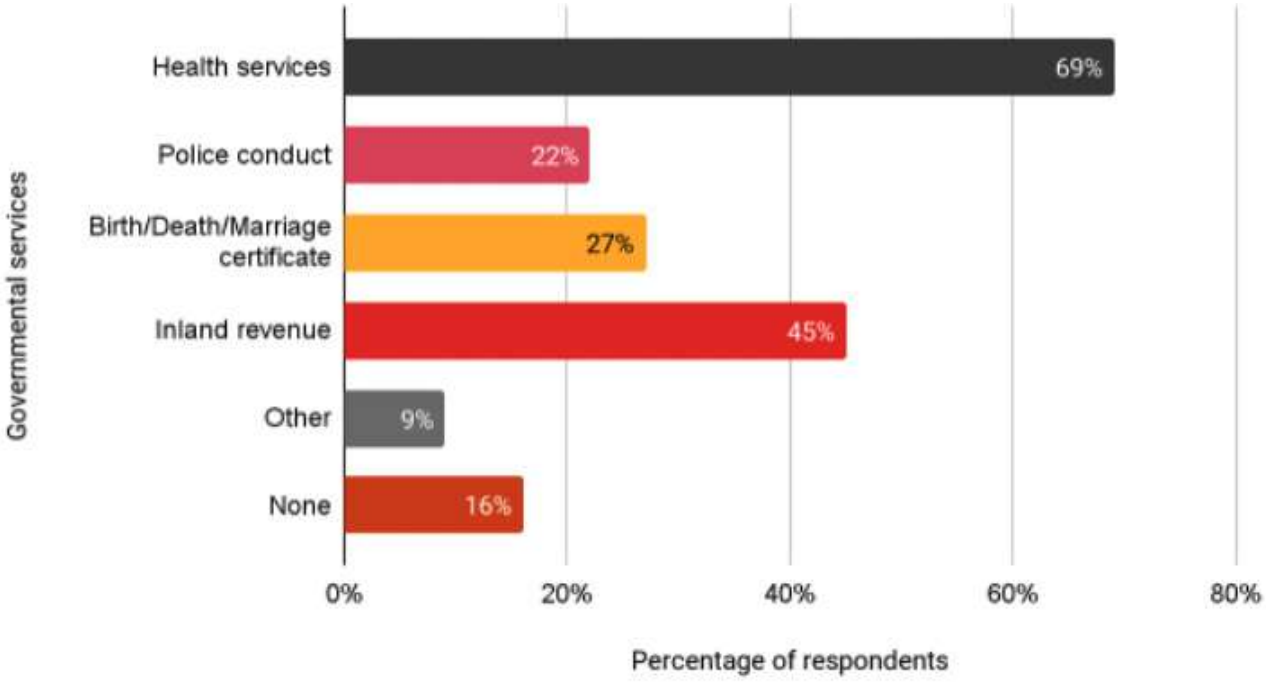
When asked to rate their ability on using Government services online, the majority stated to be average (31%) or good (35%) at doing so. However, the European Commission set the target that, "All key public services for businesses and citizens should be fully online by 2030". In this light, the 9% of the respondents who are unable to government services online and 11% who have difficulties is relatively high.



Online Government services (2)

Question: Which Government services do you make use of online?

Following this, the figure below illustrates the use of various Government services online by the respondents. Another target set by the European Commission is that '100% of citizens should have access to medical records. In this light, it is interesting that 69% of the respondents use health services online. It should be noted that this figure does not imply that 31% of the respondents do not have access to their medical records online, but only means that those respondents do not make use of the available service.



Sources:

European Commission (2021) 'Digital Economy and Society Index (DESI). Retrieved from https://digital-strategy.ec.europa.eu/en/policies/desi

Additional online Government services

Question: Which Government services do you wish to see online?

The question was open-ended and the following responses were collected:

- Citizenship
- Permit applications
- Identification document renewal
- Health services
- Transport Malta (e.g Incident reporting or traffic reporting)
- VAT reporting
- Land registration
- Waste disposal services
- Social benefits
- Family consultations
- Election manifestos

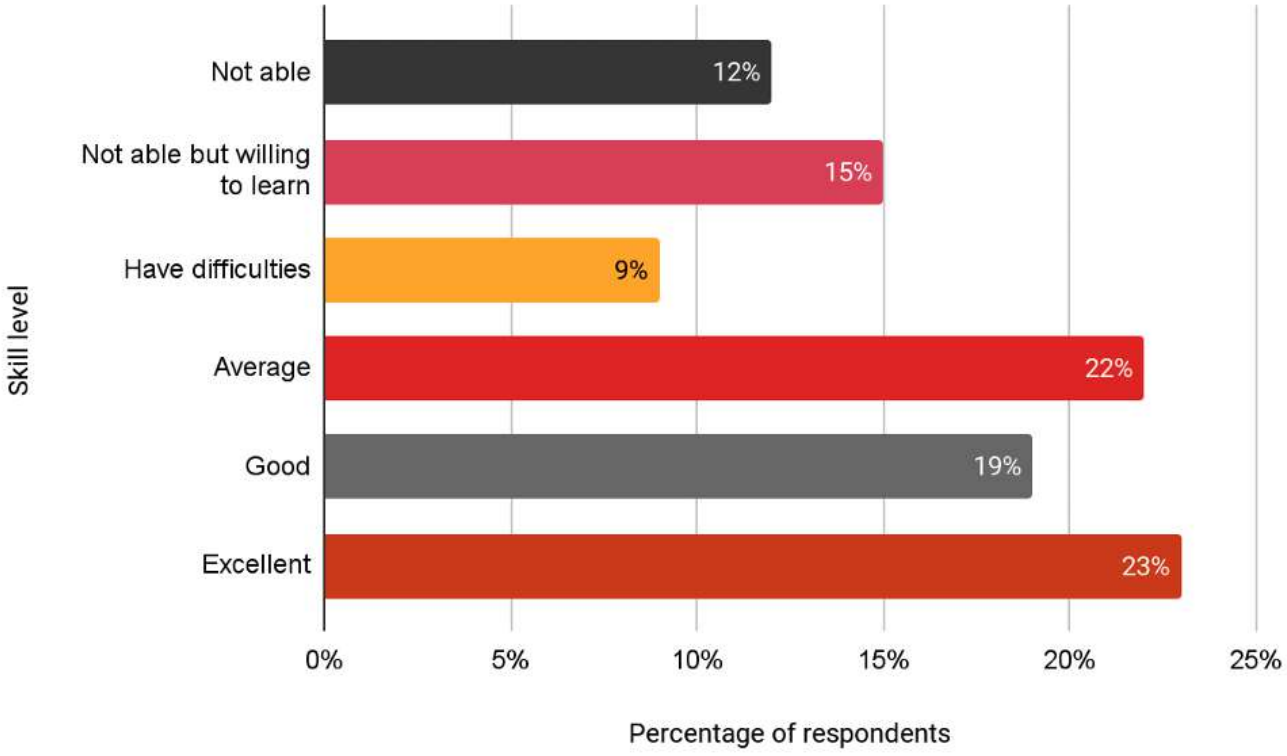
Creating and sharing documents

Question: Are you able to create and share documents with other people using collaborative tools?

The European Commission set the target that by 2030, 80% of EU's citizens should have at least basic digital skills. The skill level of individuals is measured based on four domains: information, software, communication and problem solving. Individuals get scores attributed on the domain of communication based on their ability to communicate in digital environments, share documents through online tools, link with others and collaborate through digital tools.

Creating and sharing documents

All of the aforementioned skills are related to using collaborative tools as stated in the question above. As such, given that 36% have difficulties and/or are unable to create and share documents using collaborative tools is concerning.



Sources:

European Commission (2021) 'Digital Economy and Society Index (DESI). Retrieved from https://digital-strategy.ec.europa.eu/en/policies/desi

European Commission (2021) Key Indicators, retrieved from https://digital-agenda-data.eu/datasets/digital_agenda_scoreboard_key_indicators/indicators#digital-skills

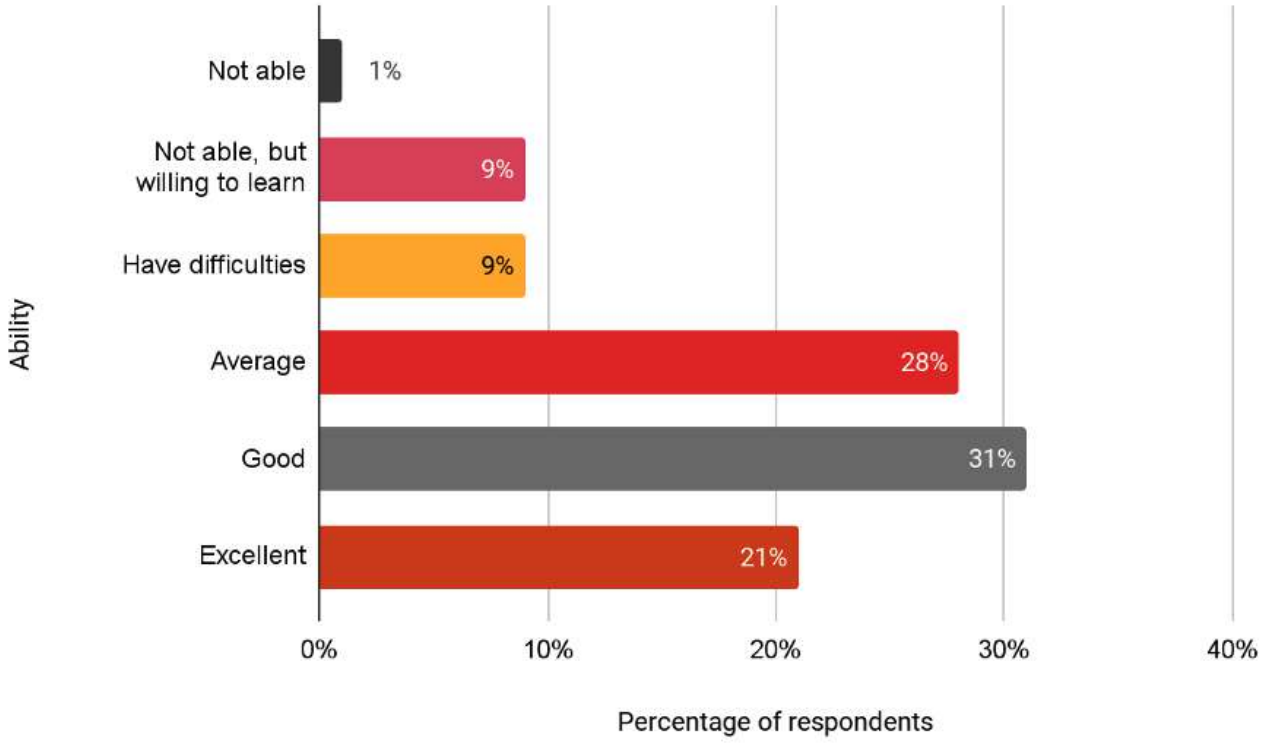
Managing access to online content

Question: Do you know how to manage the access to the content you posted online?

Only 1 out of 10 respondents state that they are unable to manage the access to the content they post online. This could indicate that the content they post could be accessed by others they did not tend to give visibility to. Should the individuals not post any sensitive information this should not be of concern. Yet, should they post sensitive information, they could be opening themselves up to be a victim of a cyber attacked.

Managing access to online content

In total, 62.6% of all identity deception based attacks use easily accessible personal information to impersonate a trusted individual. Furthermore, research conducted by Kaspersky shows that individuals have exposed themselves to said online attacks by sharing: driving licenses and other personal documents (41%), financial and payment details (37%) and passwords (30%).



Sources:

Comparitech (2022) '300+ terrifying cybercrime and cybersecurity statistics (2022 edition)' retrieved from https://www.comparitech.com/vpn/cybersecurity-cyber-crime-statistics-facts-trends/

Kaspersky (2017) 'Giving too much away? Most people share personal information online - And young people are most at risk', retrieved from https://www.kaspersky.com/about/press-releases/2017_giving-too-much-away

Creating online content

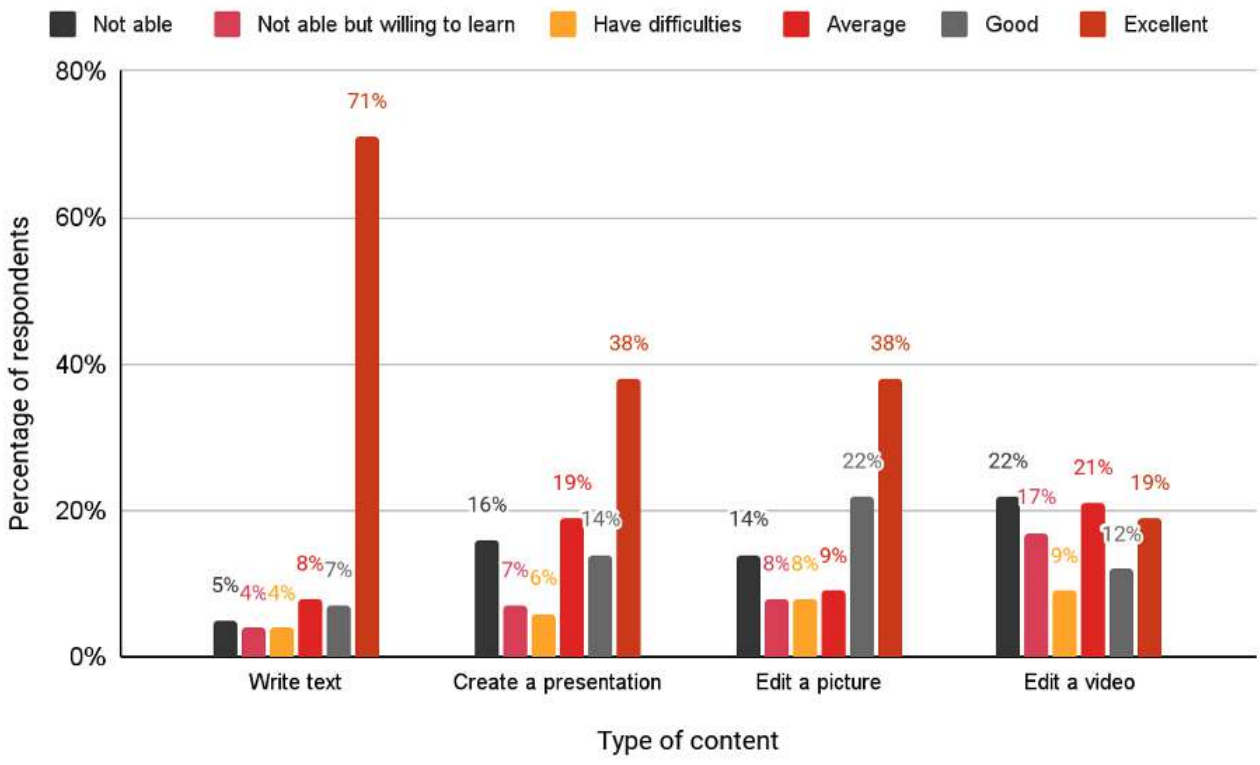
Question: How would you rate yourself on performing the following tasks on technological equipment?

The tasks as stated in the figure opposite are used in the DESI index to indicate someone's digital skills in the software domain* (defined in Annex 2). As previously mentioned, 80% of the EU citizens should have basic digital skills by 2030.

9% of the respondents are unable to write text, 23% of the respondents are unable to create a presentation, 22% of the respondents are unable to edit a picture and 39% of the respondents are unable to edit a video.

Creating online content

These relatively high percentages might indicate a lack of basic digital skills amongst those surveyed. By means of comparison, In 2021, 56% of the Maltese residents had basic digital skills. Indicating that there is quite a significant gap to close in Malta, from 56% to 80% by 2030. Therefore, further highlighting the need to upskilling Maltese residents on basic digital skills in order to progress the digital competence of the nation.



Sources:

European Commission (2021) 'Digital Economy and Society Index (DESI). Retrieved from https://digital-strategy.ec.europa.eu/en/policies/desi

European Commission (2021) Key Indicators, retrieved from https://digital-agenda-data.eu/datasets/digital_agenda_scoreboard_key_indicators/indicators#digital-skills

Protection against online scams

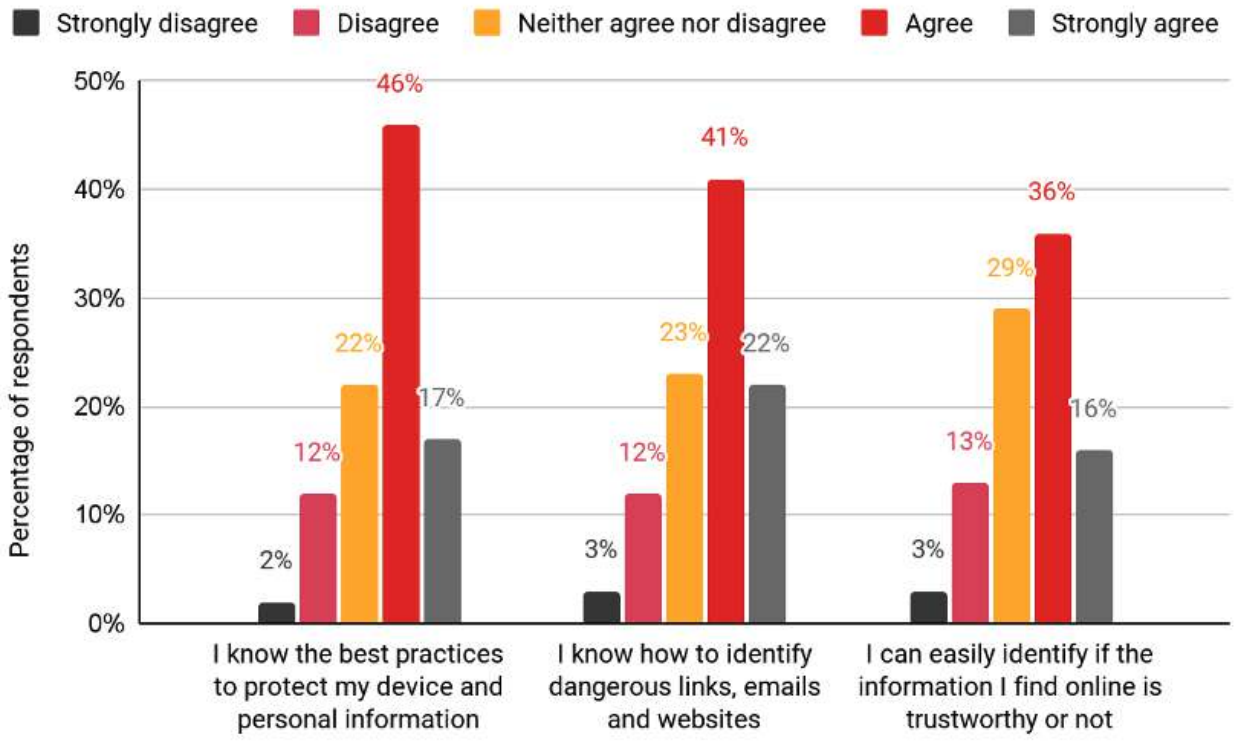
Question: To what extent do you agree with the following statements?

Although the majority of the respondents agree with the statements posed, a large portion were either indifferent or disagreed with the following statements, indicating that they lack confidence in protecting themselves online.

This is concerning, as every 32 seconds somebody becomes a victim of an online attack. For which, on average it takes 206 days to identify an online security breach.

Protection against online scams

Furthermore, 1 of 13 web requests leads to malware. Dangerous links can be found on commonly used websites, attached to emails or text messages, or simply found when navigating the web through a browser. As such, the fact that 38% of respondents were either indifferent or disagreed with the statement '*I know how to identify dangerous links, emails and websites*' is concerning, as it means that they are vulnerable towards online crime.



Sources:

Comparitech (2022) '300+ terrifying cybercrime and cybersecurity statistics (2022 edition)' retrieved from https://www.comparitech.com/vpn/cybersecurity-cyber-crime-statistics-facts-trends/

Legaljobs (2022) '39 worrying cyber crime statistics (updated for 2022)' retrieved from https://legaljobs.io/blog/cyber-crime-statistics/

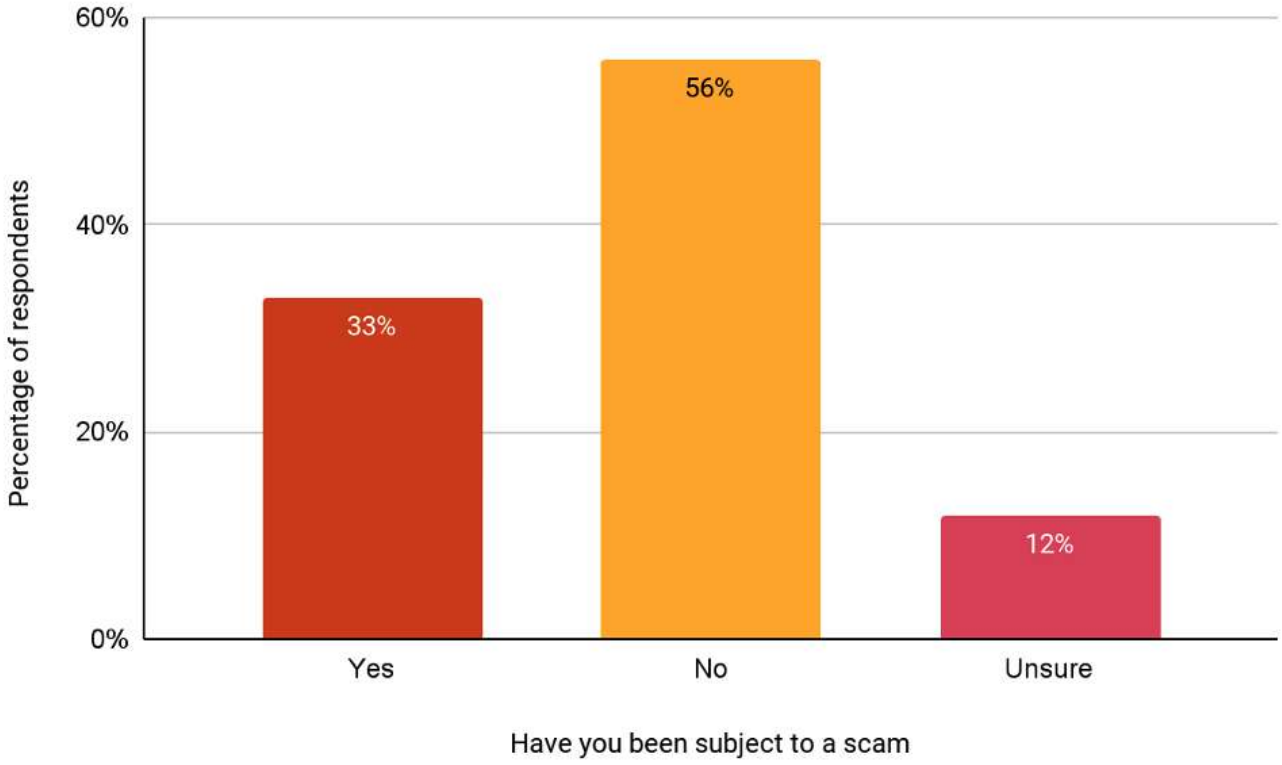
Victim of online scams

Question: Have you previously been subject to a scam?

Following the previous page, the high percentage of respondents who neither agree nor disagree (23%), disagree (12%) or strongly disagree (3%) with the statement '*I know how to identify dangerous links, emails or websites*', is approximately equal to the percentage of respondents who have been subject to an online scam (33%).

Additionally, 12% of the respondents are unsure whether or not they have been subject to an online scam.

Taking the statistics on cybercrime reported on the previous page into account, these results are not surprising though worrying.



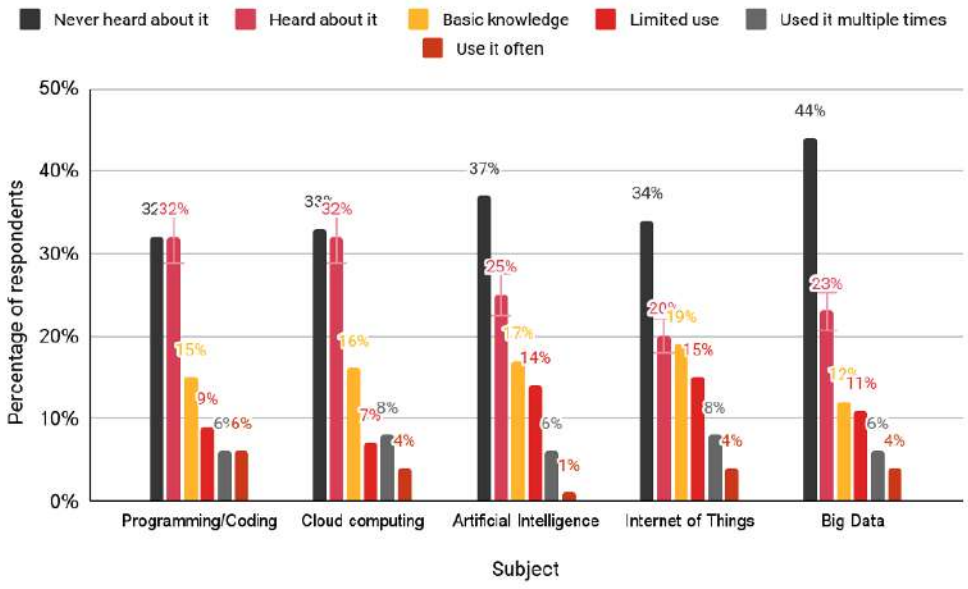
Mastery of digital skills

Question: Have would you rate your mastery on the following subjects?

As shown in the figure below, the mastery of the majority of the respondents on the stated subjects is limited to 'never heard about it' or 'heard about it'.

The European Commission set the target that, by 2030 at least 75% of the companies based in the EU should have adopted Cloud Computing technology, Big Data technology and Artificial Intelligence technology. In Malta, 38% of the enterprises made use of Cloud Computing technologies and 33% made use of Big Data technologies in 2020.

To reach the set targets, companies must have access to human capital with at least a basic understanding of how to apply such technologies. As per the responses received through they survey conducted, such skills seem to be limited.



Sources:

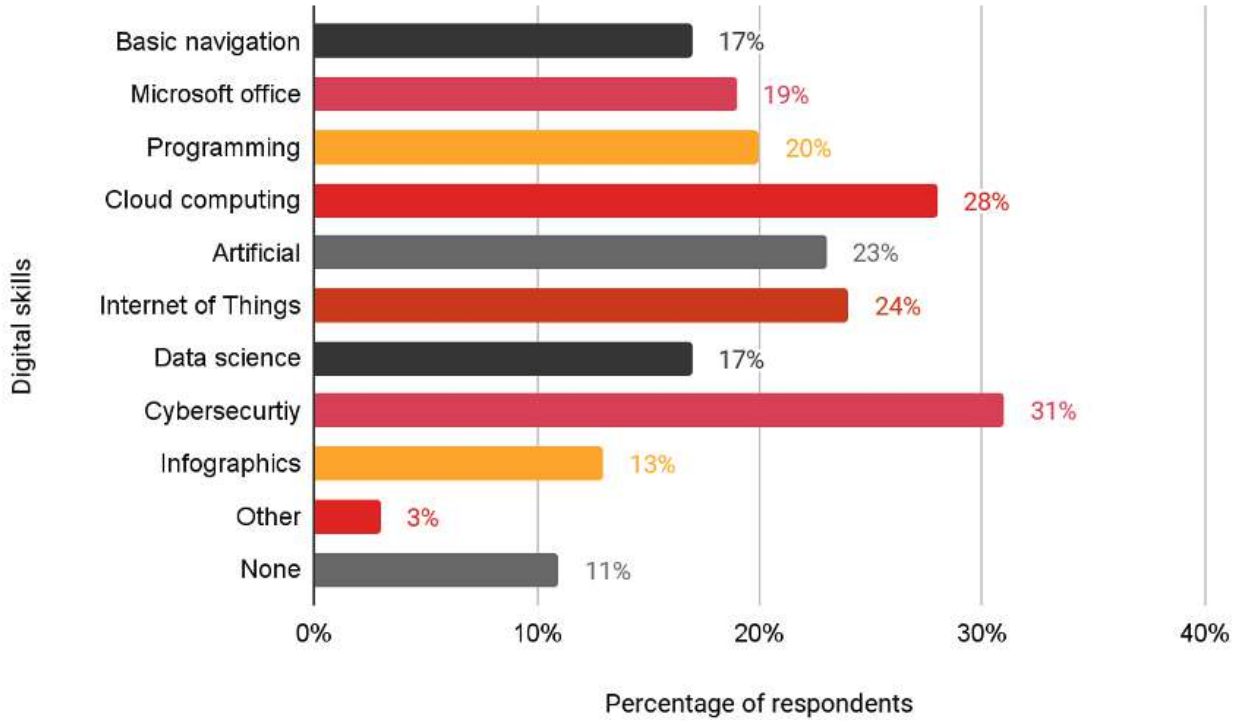
European Commission (2021) 'Digital Economy and Society Index (DESI). Retrieved from https://digital-strategy.ec.europa.eu/en/policies/desi

European Commission (2021) Digital Economy and Society Index (DESI) Malta. Retrieved from https://digital-strategy.ec.europa.eu/en/policies/countries-digitisation-performance

Digital skills willing to develop

Question: Which of the following digital skills would you best like to develop?

Only 11% of the respondents are not willing to develop any digital skills in the near future. Indicating that 89% of the respondents are willing to develop some of the listed digital skill(s), which are promising results for Malta's future digital landscape. Following the previous results about cybersecurity, it is also encouraging to note that 31% of the respondents are willing to develop skills in relation to cybersecurity. Furthermore, approximately a quarter of the respondents are willing to develop skills in relation to Artificial Intelligence (23%) and/or Cloud Computing (28%). All of which is a step in the right direction to reach the said targets by the EU Commission and advance Malta's businesses and human capital.



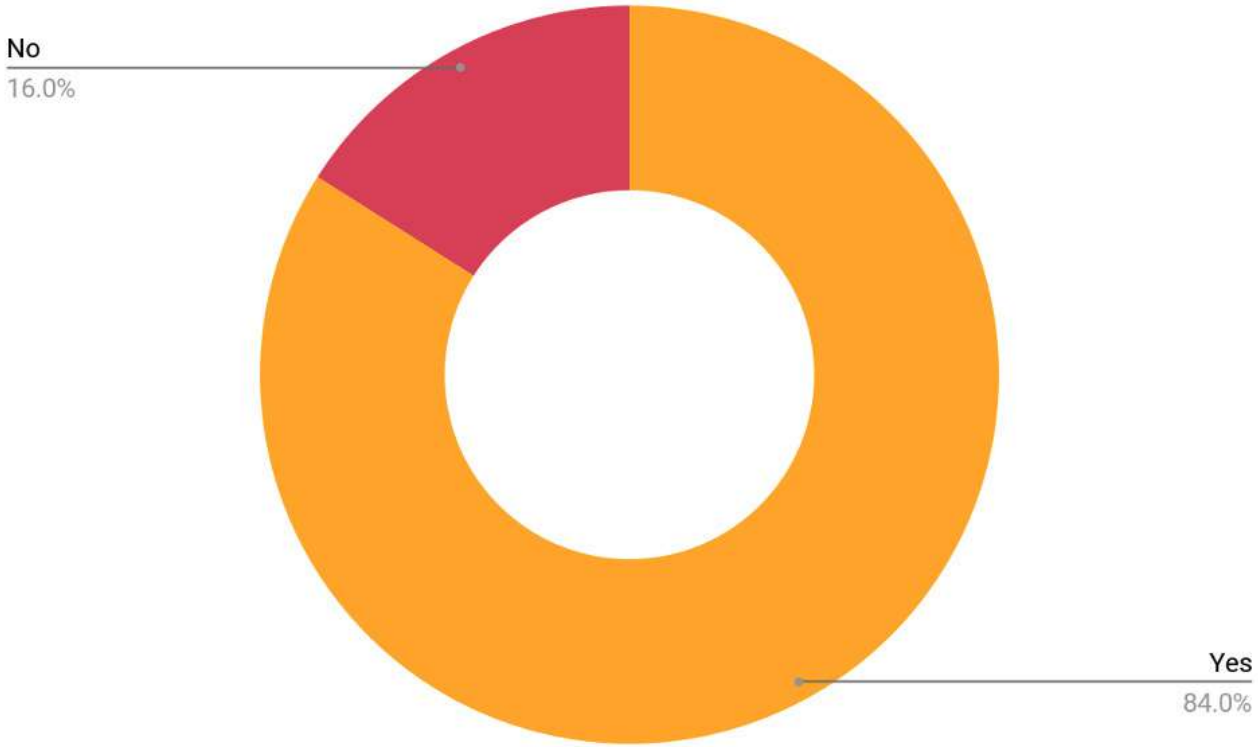
Digital self assessment tool

Question: If a digital self assessment tool was made available (for free) would you make use of it?

The large majority of the respondents (84%) would make use of a digital self assessment tool if made available for free.

The digital self assessment tool refers to a tool that provides users with a tailored assessment of their own digital competence level. This will be anonymous, and not visible to anyone but the individual.

Indicating that people are eager to know what their digital capabilities are, in order to improve their digital competence.



2

Business survey results

Business survey introduction

A survey was sent out to small and medium enterprises to gather data regarding their digital transformation process. The survey covered the following topics:

- Attitude towards digital transformation
- Progress of SMEs towards digital transformation
- Training provided within SMEs
- Barriers to upskilling their workforce

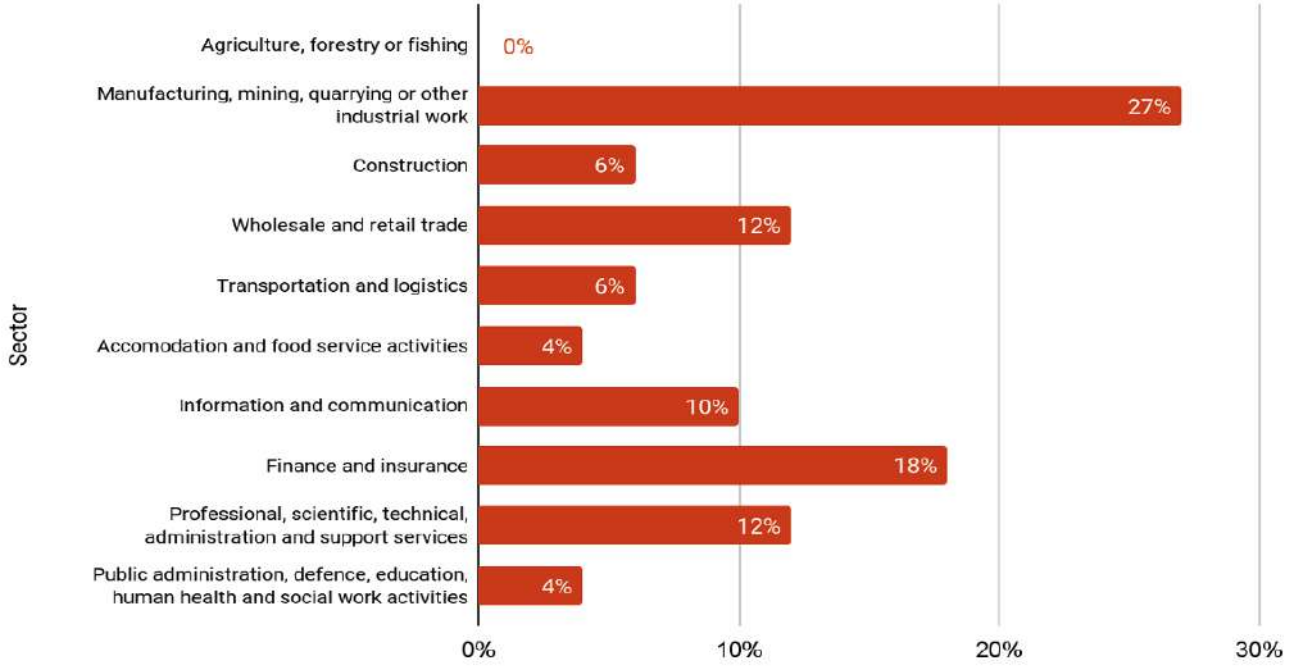
In total, 70 responses were gathered from employees who responded on behalf of their organisation of employment. The results were shared during a workshop held with experts from the business and technology sector. The data gathered from the surveys provide valuable insights and guidance on which the next eSkills strategy will be based. Within this section of the report we outline the results gathered from the survey.

Descriptors

Sector

More than a quarter of the respondents to the business survey, represent organisations within the manufacturing, mining, quarrying or other industrial work sectors (27%).

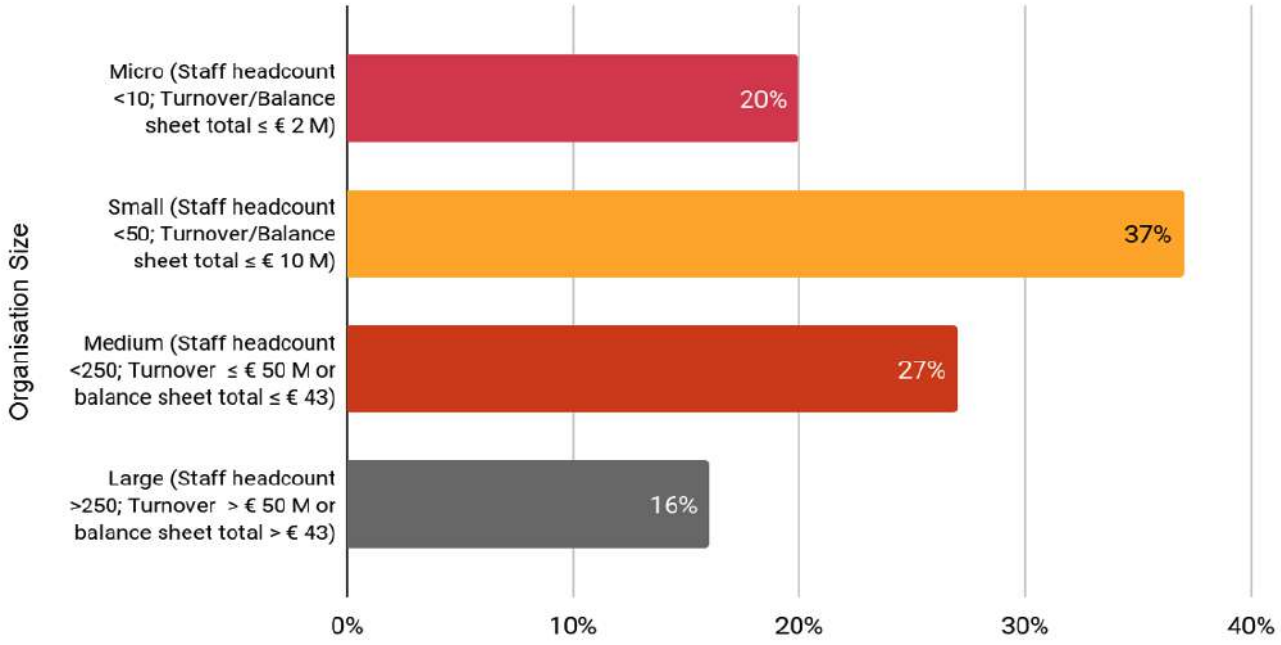
Furthermore, as can be seen on the graph below there were 10 main sectors identified for the respondents to choose from and all but Agriculture, Forestry of Fishing are represented.



Descriptors

Size

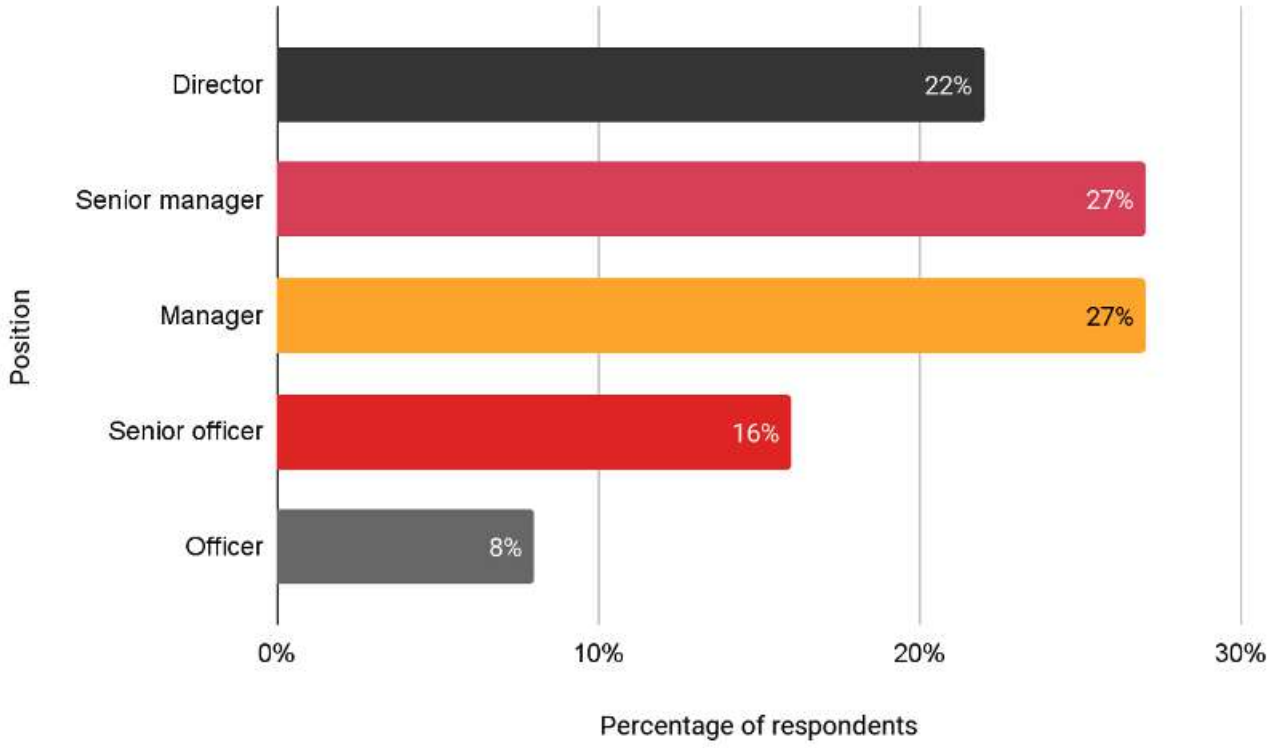
As for the sizes of the businesses who participated in the survey, 37% are small, 20% are micro, 27% are medium and only 16% are large. The definition of what makes a Micro, Small, Medium or Large enterprise is as per the European Commission definition sourced below.



Descriptors

Position held within organisation

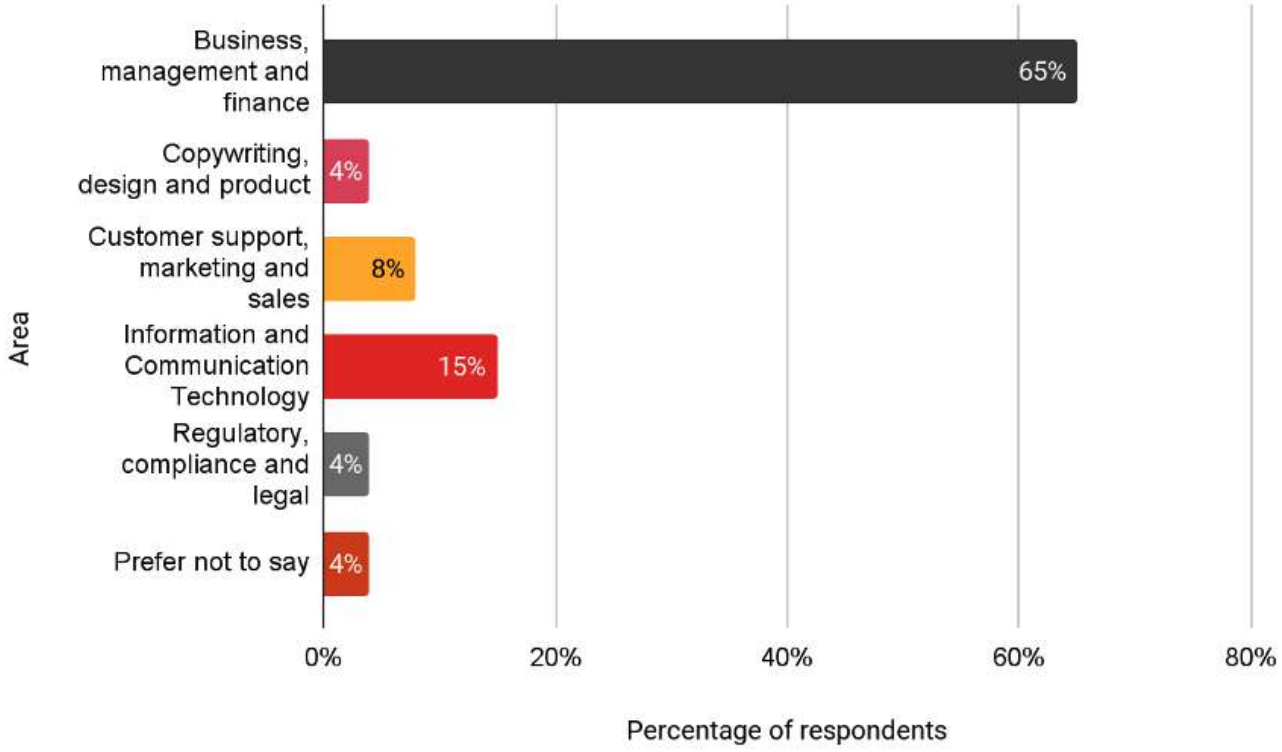
Most respondents hold a managerial position or above in their organisation (76%). Approximately 1 of 5 respondents holds a Director role within their organisation (22%).



Descriptors

Function within the organisation

The large majority of the respondents (65%) work within the business, management and finance function within the organisation. Only 4% of the respondents preferred not to say.

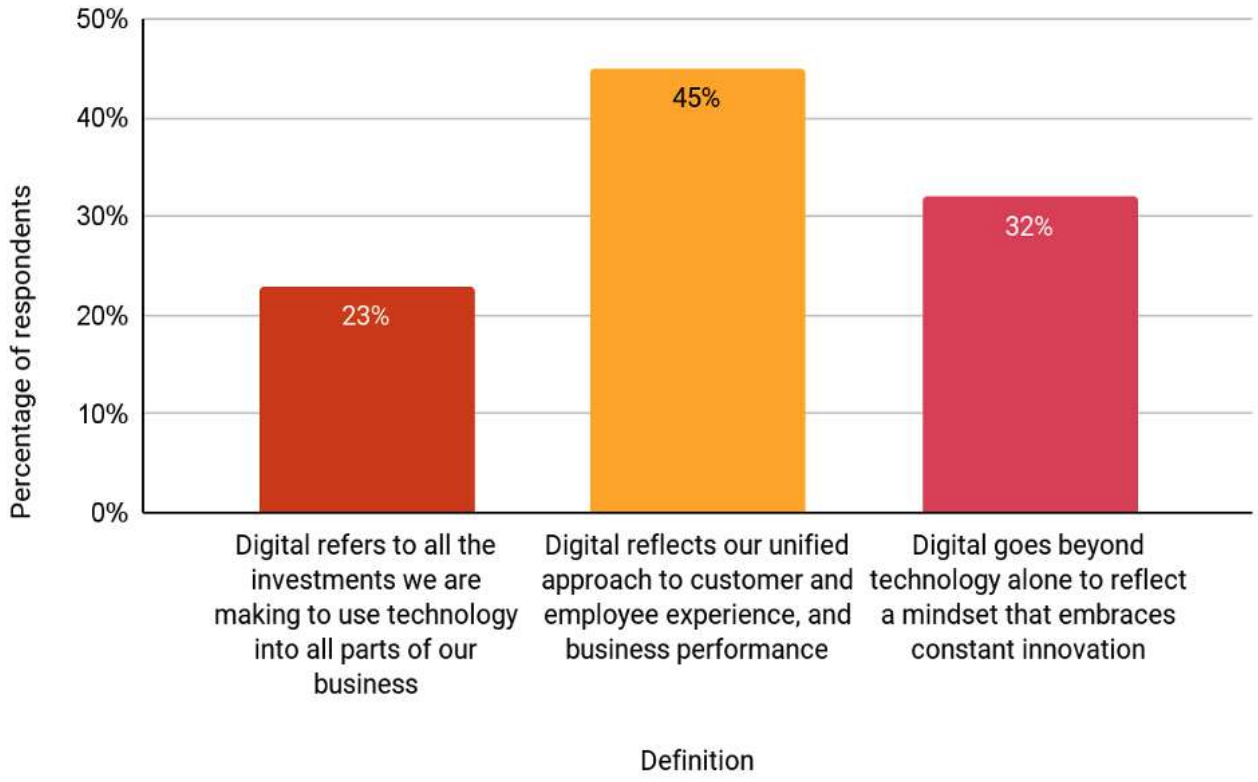


Definition of digital

Question: How does your organisation define digital?

The majority of the respondents (45%) define digital as the unified approach to customer and employee experience, and business performance.

Approximately 1 of 3 respondents (32%) believe that digital goes beyond technology alone and reflects a mindset that embraces constant innovation. Indicating that those respondents view digitalisation from a holistic perspective. The remaining 23% of the respondents believe that digital refers to all the investments they are making to use of technology into all parts of their business. Indicating that those respondents view digitalisation from a functional perspective.



Digital competence

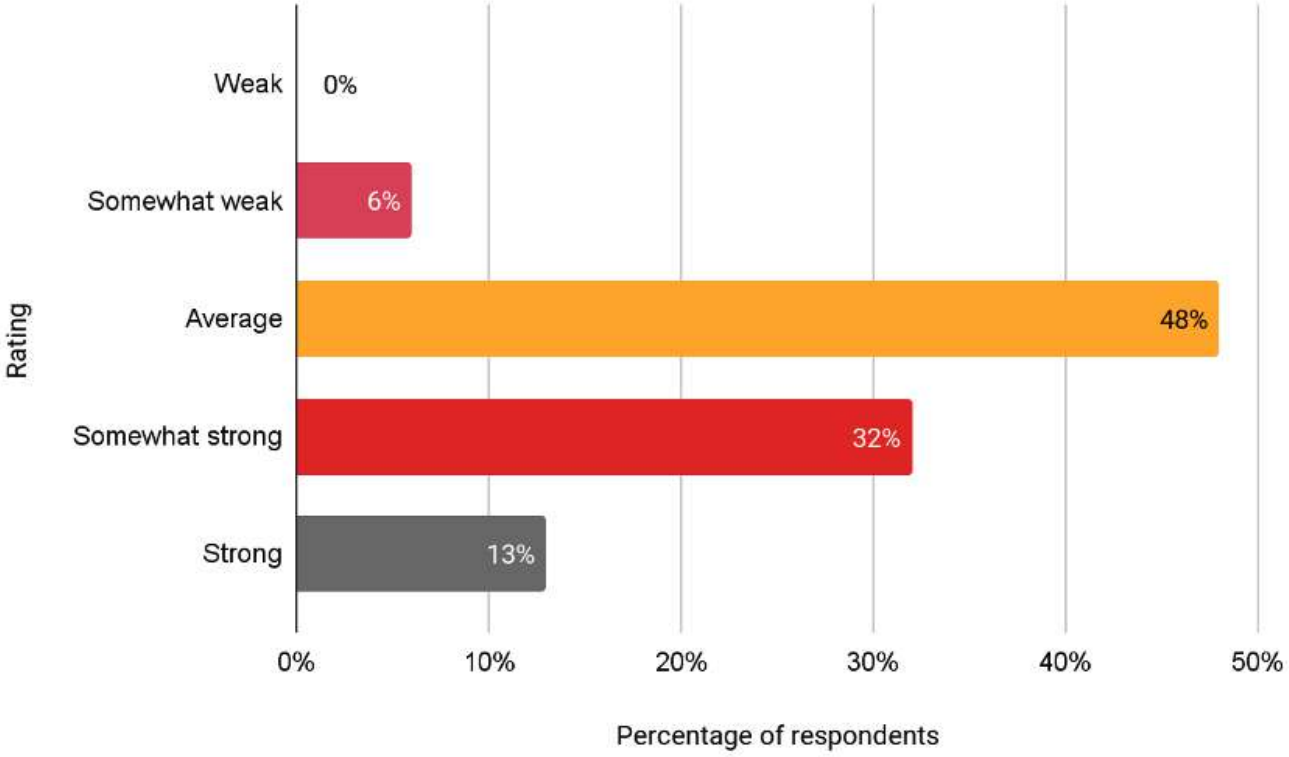
Question: We define digital literacy as the measure of how well an organisation understands and captures the value of “digital” investments - in terms of automated tools, business processes and overall culture. Rate your organisation’s digital comptence

The majority of the respondents (48%) rate their organisation’s digital competence as average. Only 6% of the respondents rate their organisation’s digital competence as somewhat weak.

Digital competence

In the digital decade as mentioned earlier, the European Commission set the target that "*90% of SMEs should reach at least a basic level of digital intensity*". Meaning that SMEs should adopt at least 4 out of a list of 12 technologies. The list including the 12 technologies can be found in Annex 1.

In Malta, 71% of the SMEs had at least a basic level of digital intensity in 2020.



Sources:

European Commission (2021) 'Digital Economy and Society Index (DESI). Retrieved from https://digital-strategy.ec.europa.eu/en/policies/desi

European Commission (2021) Digital Economy and Society Index (DESI) Malta. Retrieved from https://digital-strategy.ec.europa.eu/en/policies/countries-digitisation-performance

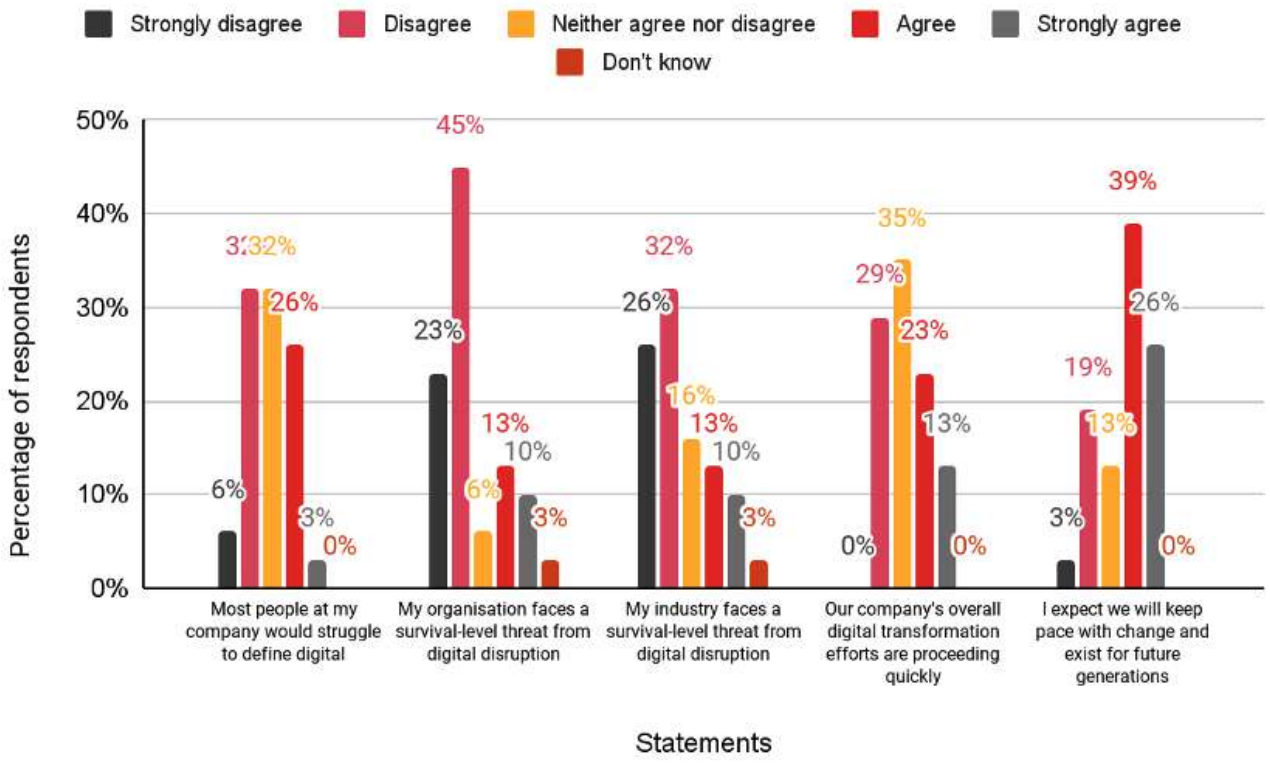
Digital landscape

Question: To what extent do you agree with the following five statements?

The 23% of the respondents agree or strongly agree with the statement posed that their organisation or their industry faces a survival level threat from digital disruption. Whereas neither agree nor disagree that their organisation (6%) or industry (16%) faces a survival level threat from digital disruption. As such, an interesting observation is that the 10% disparity falls within those who were uncertain if their industry will overcome the digital disruption faced.

Digital landscape

In a survey conducted among CEOs by PwC regarding the effect of disruptive events to an industry, technology was highlighted as the main source of industry disruption. Businesses failing to keep up with the pace of disruptors are likely to experience a decline in revenue and/or profitability. Hence, high pace digital transformation is required for business viability.



Sources:

PwC (2017) 'The disruptors: how five key factors can make or break your business', retrieved from https://www.pwc.com/gx/en/ceo-agenda/pulse/the-disruptors.html/

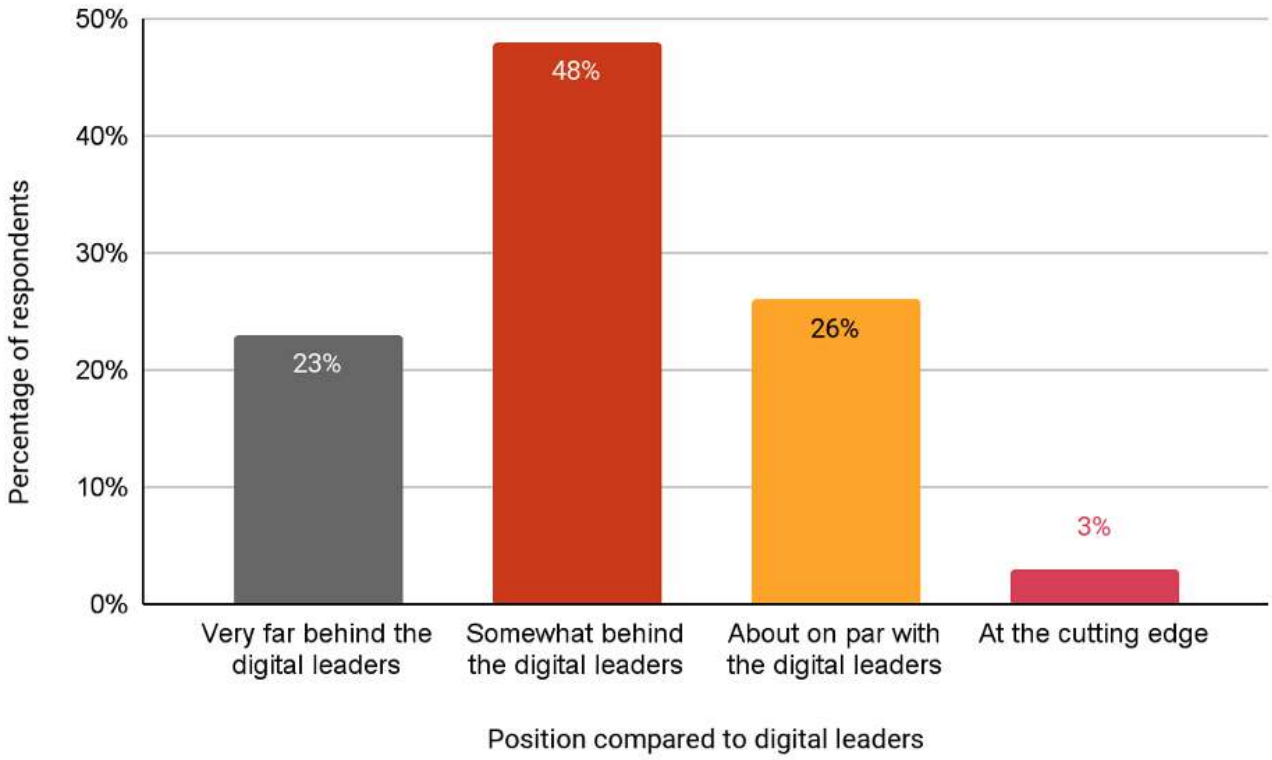
Digital transformation

Question: How would you rate your organisation's progress towards digital transformation, relative to the companies you consider digital leaders?

Almost a quarter of the respondents (23%) believe that their organisation is very far behind the companies they consider to be digital leaders. Approximately half of the respondents (48%) believe that they are somewhat behind the companies they consider digital leaders. Furthermore, 26% of the respondents believe that their organisation is about on par with digital leaders in their digital transformation journey and 3% believe that their organisation is at the cutting edge of the progress towards digital transformation relative to the companies they consider digital leaders.

Digital transformation

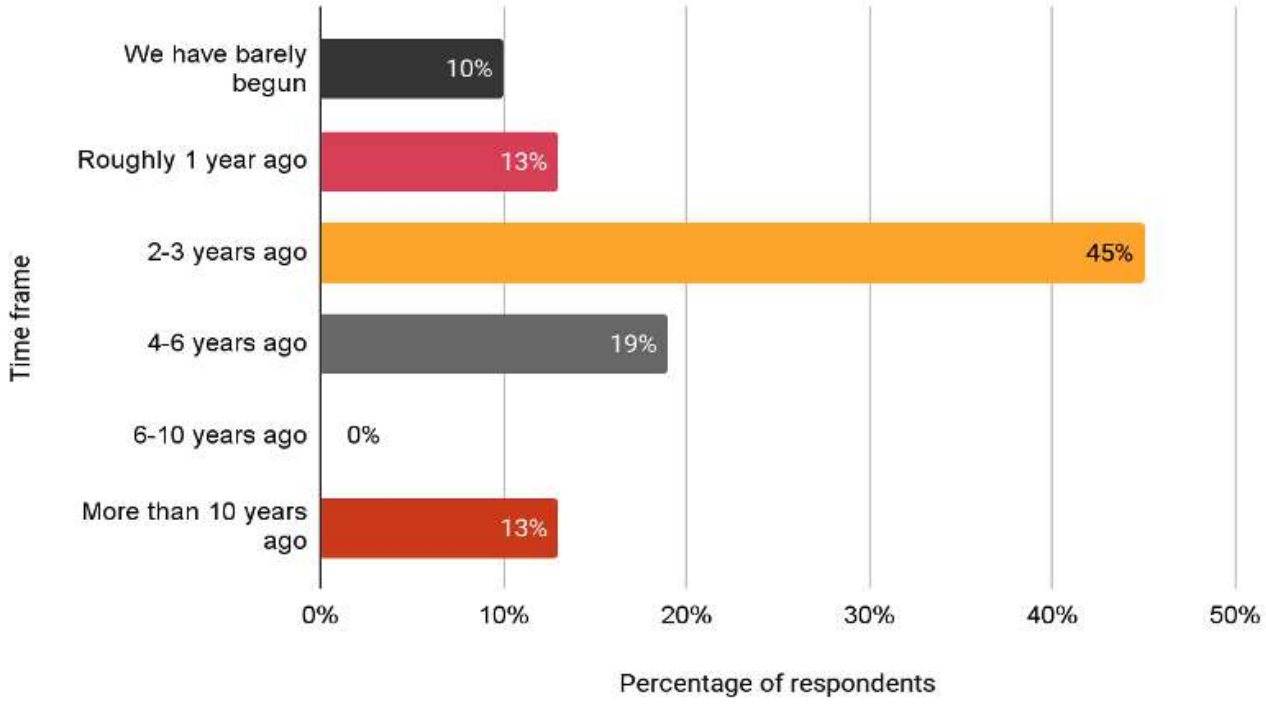
Naturally, this is entirely subjective based on the viewpoints of the respondents and on who they believe are digital leaders. Yet the responses indicate that the vast majority (76%) feel to be behind who they perceive to be digital leaders in their digital transformation journeys.



Digital transformation journey

Question: When did your organisation begin its digital transformation efforts?

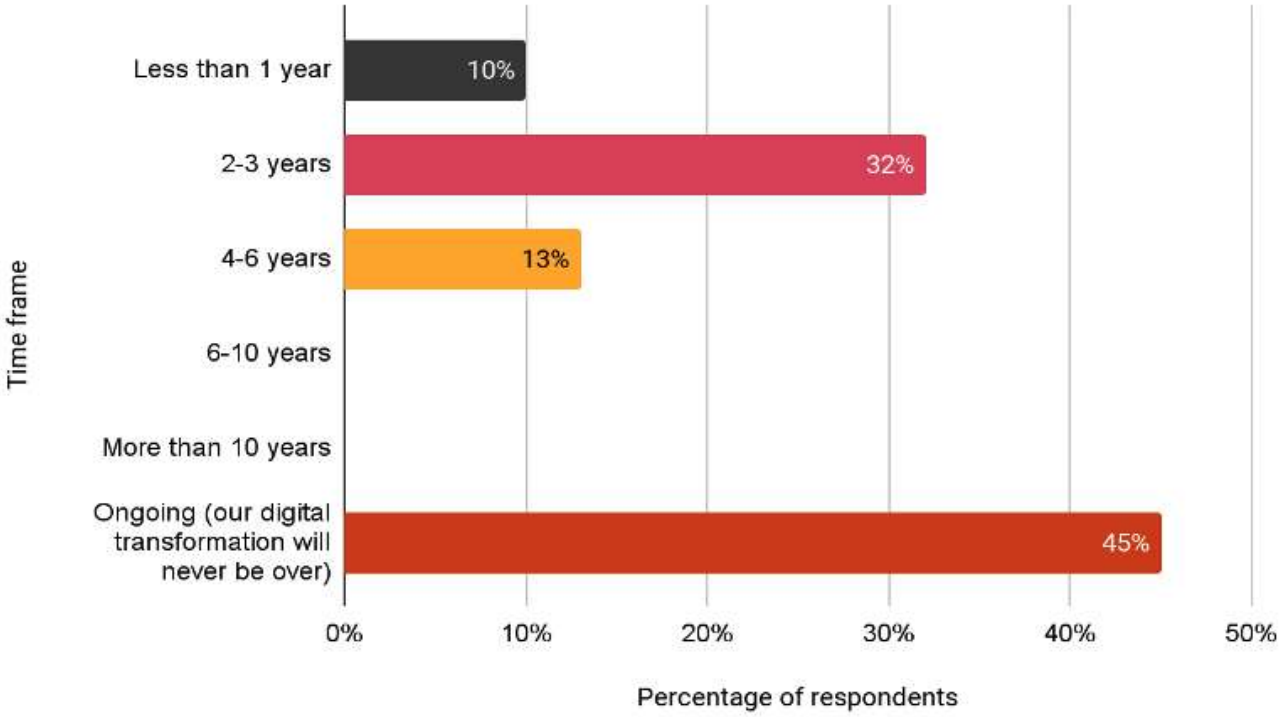
Most respondents (77%) started their digital transformation efforts two or more years ago. However, 13% of the respondents state that their organisation just started its digital transformation efforts roughly 1 year ago and 10% state that their organisation has barely begun.



Digital transformation journey

Question: How much longer do you expect digital transformation at your organisation to take?

Most respondents (45%) believe their digital transformation process to be an ongoing one. However, 13% believe that their digital transformation process will take 4 to 6 more years, 32% believe it to take 2 to 3 more years and 10% believe it to take just one more year.



Digital transformation aspirations

Question: Which of the following best describes your organisation's main past, present and future aspirations regarding digital transformation?

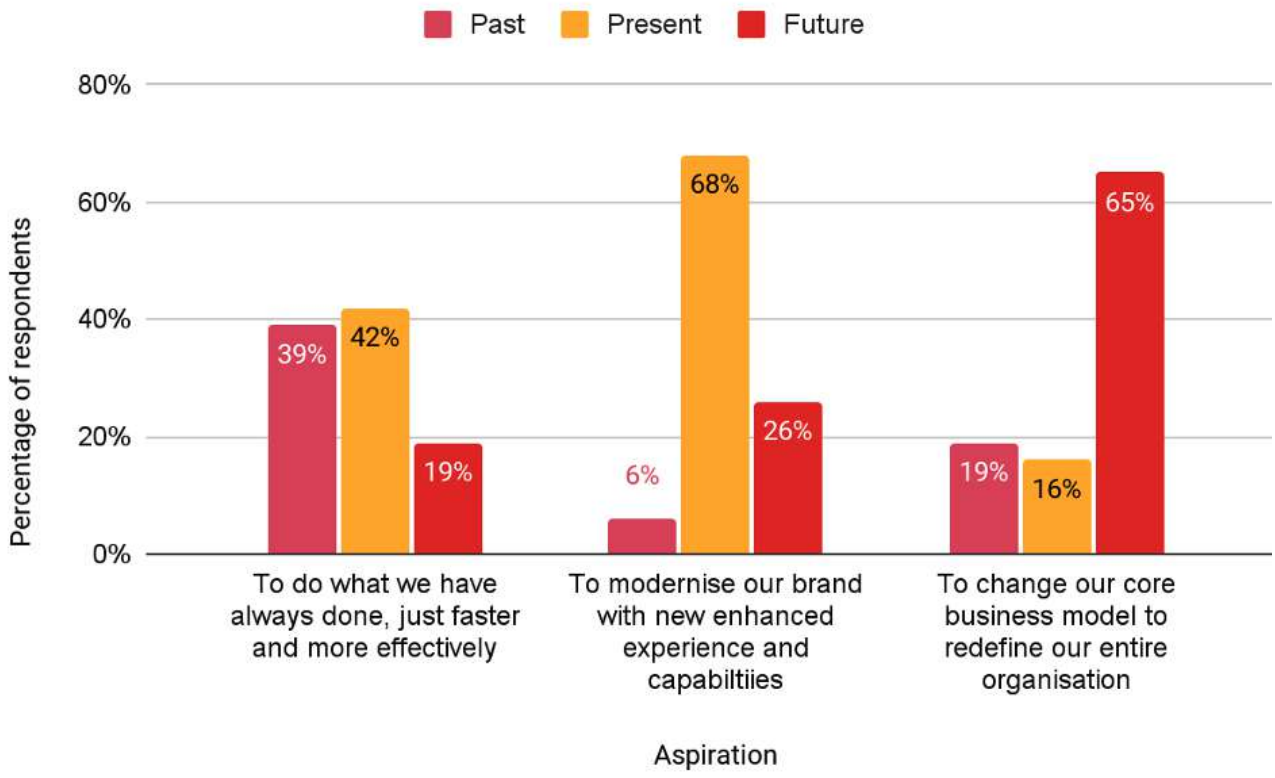
The aspirations as shown on the right provide some insights on where the respondent's organisations are in their digital transformation journey.

The first aspiration '*To do what we have always done, just faster and more effectively*' would represent the first phase of such a journey. Only 19% see this as their future aspiration. Indicating that their digital transformation journey has just started or is about to start. This is inline with the results shown on the previous page, whereby 10% of the surveyed organisation have barely begun their digital transformation journey and 13% started one year ago.

Digital transformation aspirations

The second aspiration listed is, 'To modernise our brand with new enhanced experiences and capabilities'. The majority of the respondents (68%) are currently in this phase, 26% see this as their future aspiration and 6% believe it to be a past aspiration.

The last aspiration '*To change our core business model to redefine our entire organisation*' represents a wholesome digital transformation journey, which is a future aspiration for 65% of the respondents.



Digital transformation drives

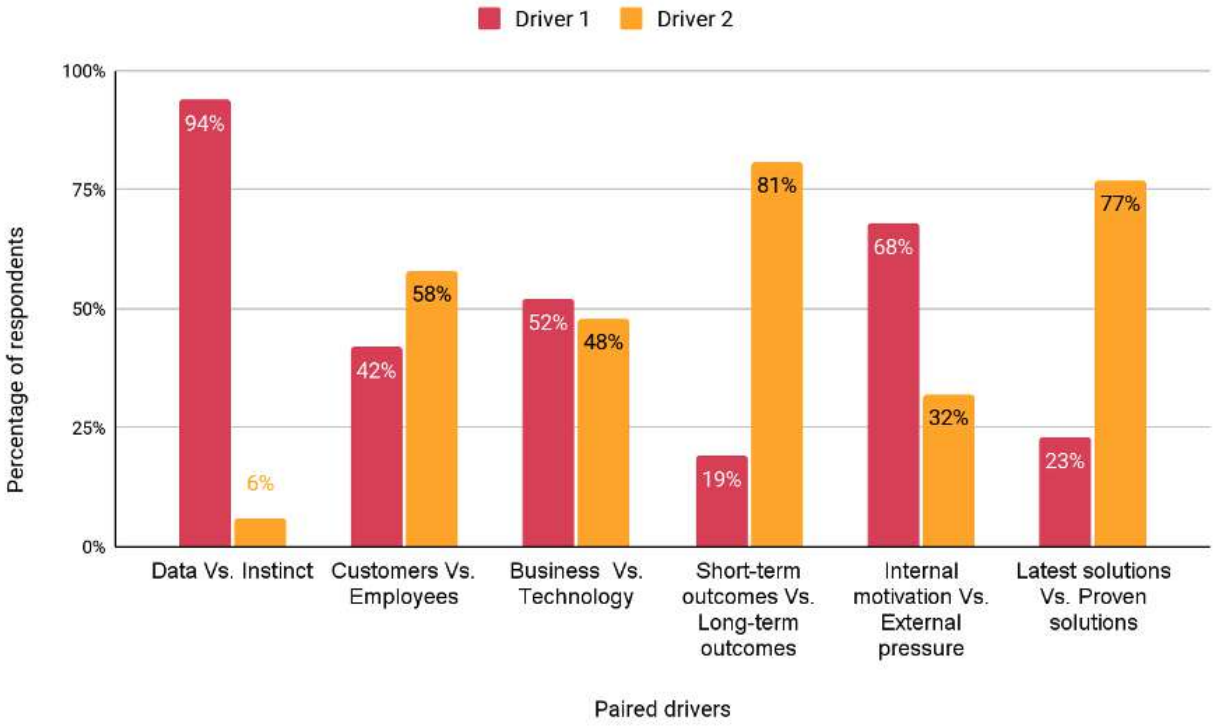
Question: Which of the following is most important in driving your digital transformation strategy?

According to the respondents the following drivers are more important to their digital transformation strategy than the driver it was paired with: data vs. instinct (94%), employees vs. customers (58%), business vs. technology (52%), long-term vs. short term outcomes (81%), internal motivation vs. external pressures (68%) and proven solutions vs. latest solutions (77%).

Although most responses lean in the direction one would expect, one that was somewhat surprising is the split between customers versus employees being a driver. 58% of respondents believe employees to be a stronger driver than their customers in relation to their digital transformation strategy.

Digital transformation drives

Although employees are the ones who will ultimately need to implement the strategy, leading companies are prioritising customer led growth. Strategic organisation's in today's world of work, are aligning and building their core capabilities to exceed customers expectations. Customers' expectations of experiences are evolving at an unprecedented rate, with technology being both a trigger and a catalyst. As such, when developing any strategy for an organisation, the voice of the customer should be a key considerations.



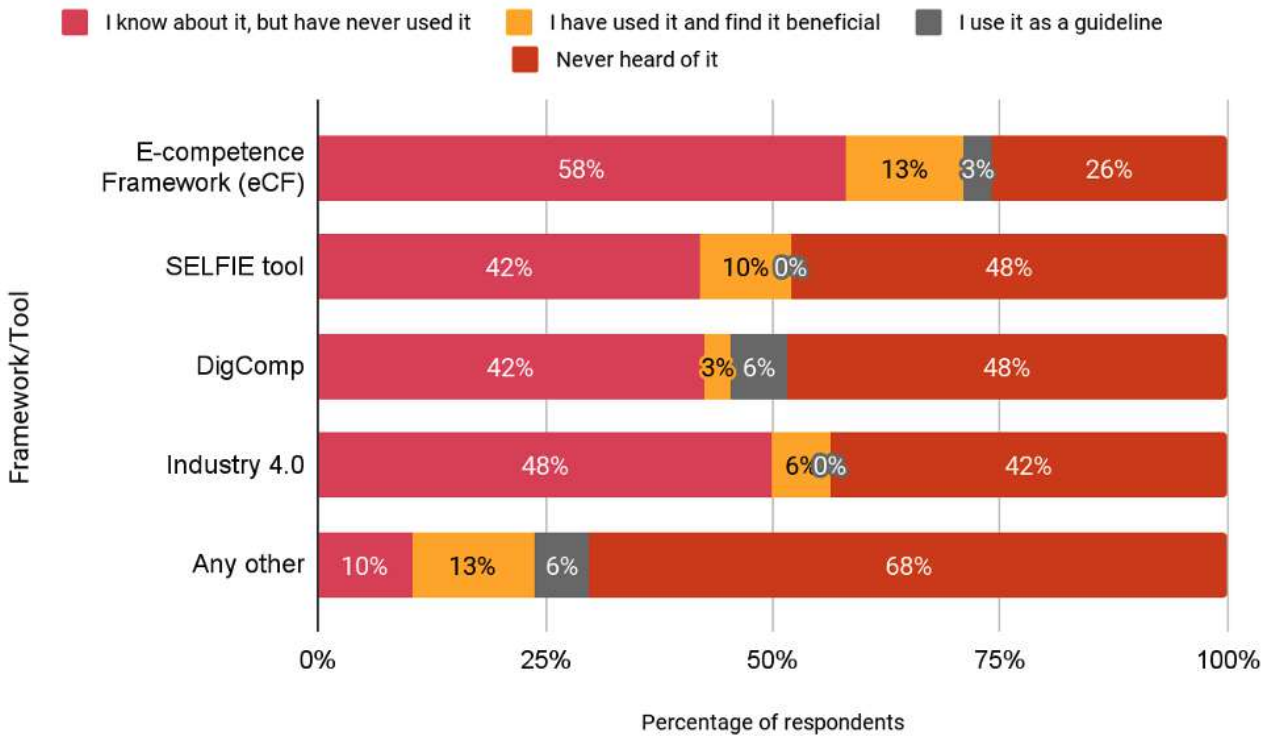
Use and awareness of digital frameworks and tools

Question: Kindly indicate your applicable response for each framework and/or tool listed below

Most respondents have not used any of the listed frameworks/tools in the figure adjacent. The E-competence Framework is only used and found beneficial by 13% of the respondents and just 3% use it as a guideline. The SELFIE tool is used and found beneficial by 10% of the respondents and Industry 4.0 by 6% of the respondents. DigComp is used as guideline by just 6% of the respondents and 3% have used it and find it beneficial.

Use and awareness of digital frameworks and tools

Interestingly, a large percentage of respondents know about the existence of the listed frameworks/tools, however, have not used them. This indicates that there is a good amount of awareness for the frameworks/tools but they may not have been used as the respondents are not skilled on them.



Digital transformation

Question: To what extent do you agree with the following statements?

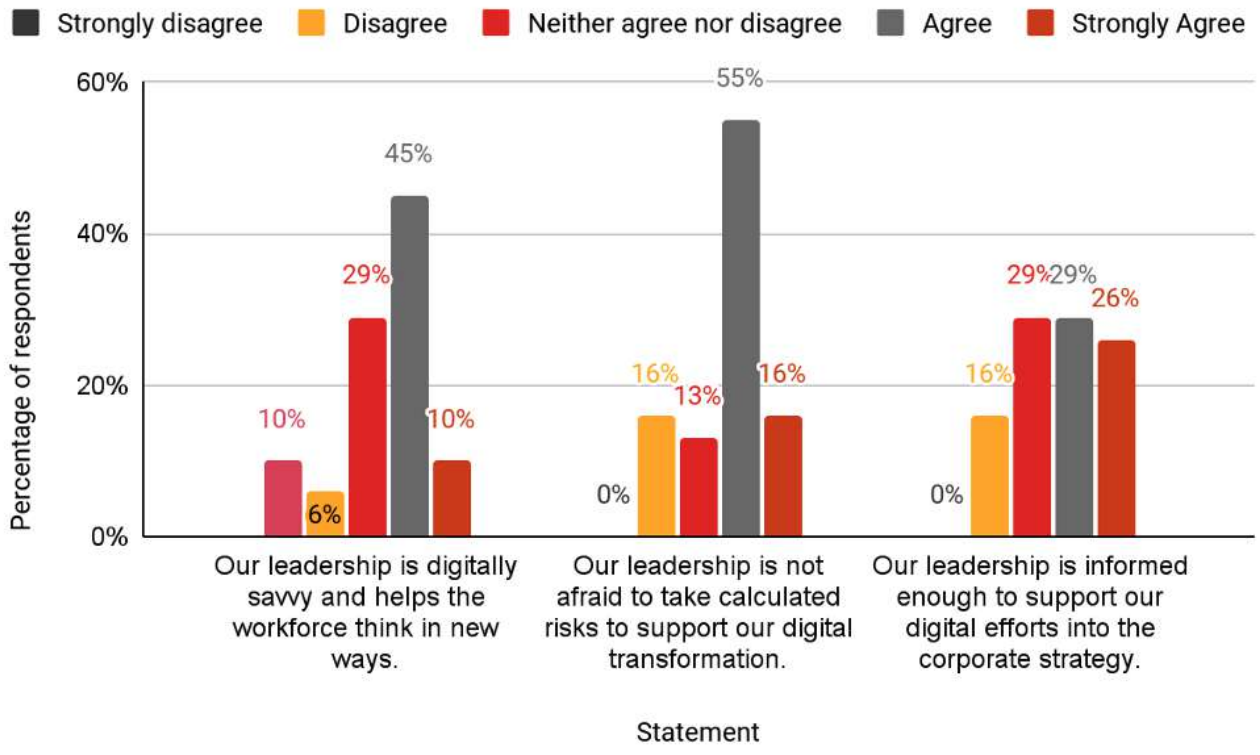
Only 16% of the respondents disagree or strongly disagree with any of the statements as shown in the figure adjacent.

One caveat, however, is that 22% of the respondents hold a position as director and 27% a position as a senior manager. Meaning that one could potentially be reviewing him or herself.

Digital transformation

Nonetheless, more respondents agree (55%) or strongly agree (16%) with the statement '*Our leadership is not afraid to take calculated risks to support our digital transformation*' than they do with the other presented statements. Of the three statements, the one aforementioned signals the attitude of the organisation's leaders towards digital transformation, whereas the other two address the digital competence of the organisation's leaders to manage the organisation through its digital transformation process.

This might indicate that employees are more confident in their leaders attitude towards digital transformation, rather their ability to execute the transformation successfully.



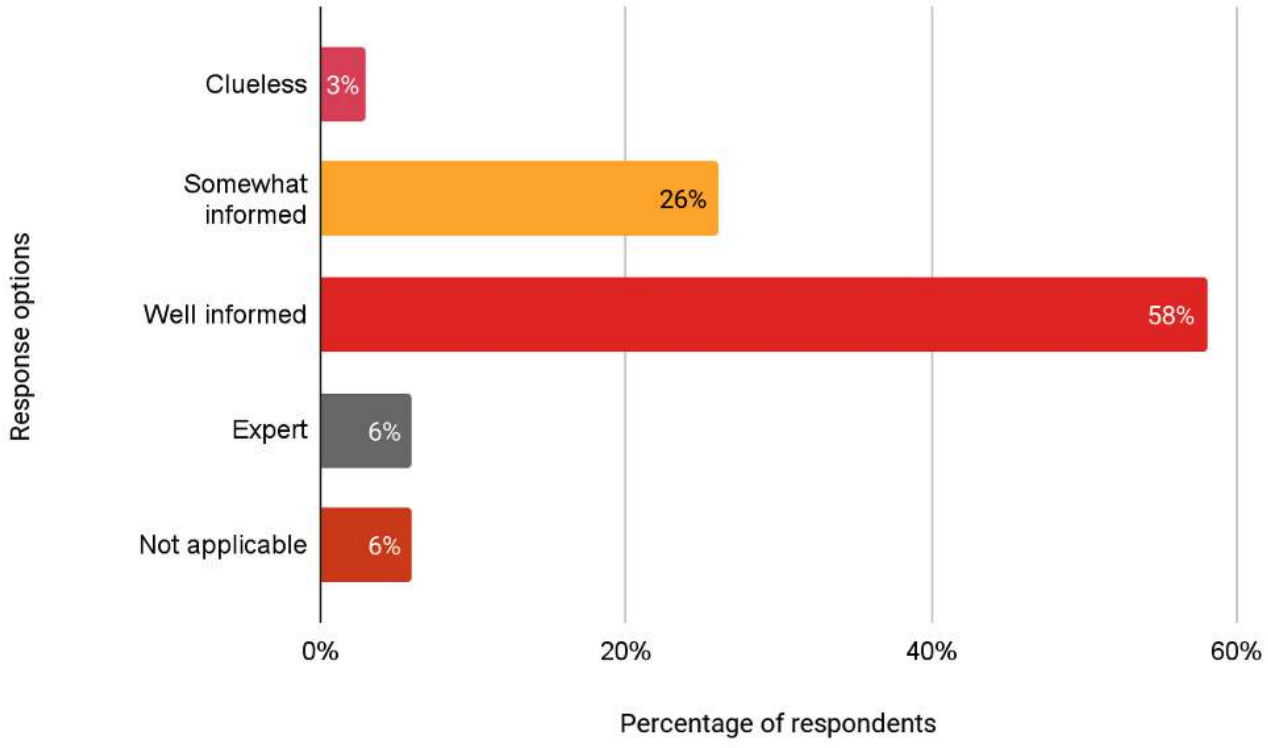
Digital transformation

Question: If applicable, which best describes your board's attitude, knowledge and support of your organisation's digital business strategies?

The large majority of the respondents (58%) state that their organisation's board is well informed regarding the organisation's digital business strategies. This is in line with the results on the previous page, where 55% of the respondents agreed to some degree with the statement that their organisation's leadership is informed enough to support their organisation's digital efforts into the corporate strategy.

Digital transformation

Approximately a quarter of the respondents (26%) state that their organisation's board is somewhat informed. Only 6% state that their organisation's board is an expert and just 3% state that their organisation's board is clueless regarding their organisation's digital business strategies. Lastly, 6% of the respondents stated that this question is not applicable to them, most likely due to the fact that they do not have an established board.



Digital transformation

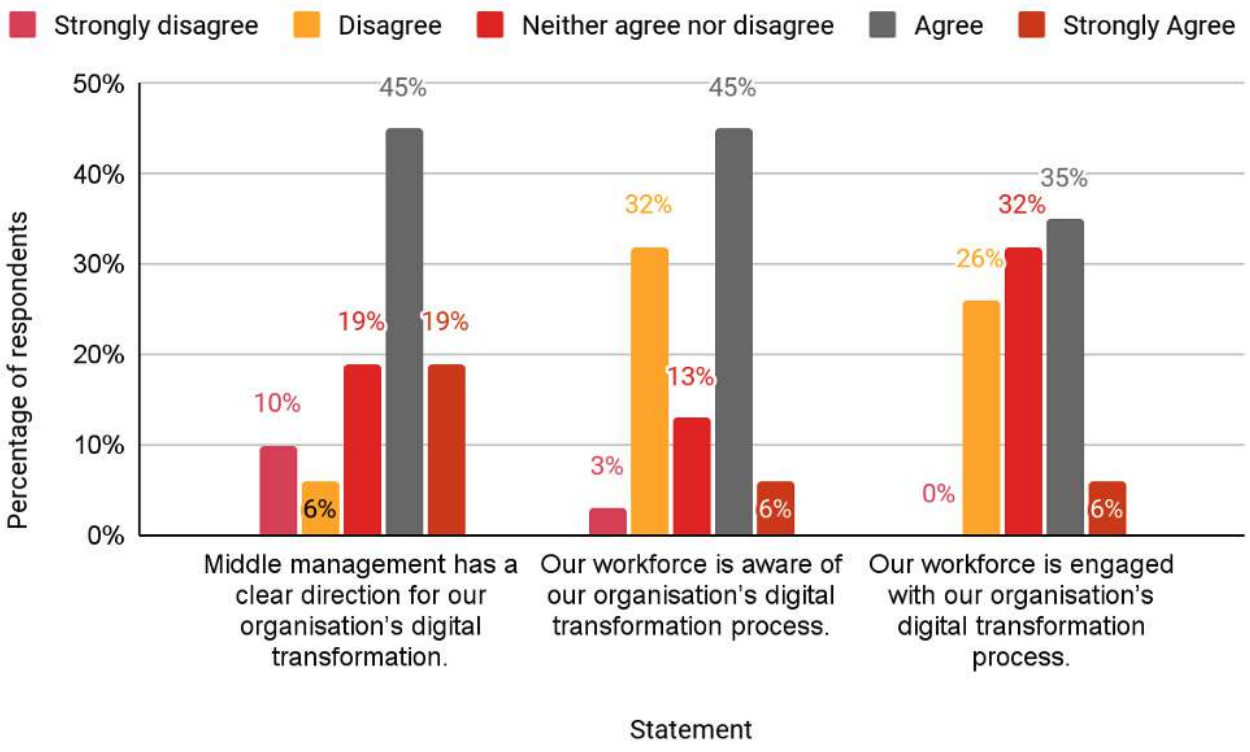
Question: To what extent do you agree with the following statements about your workforce's involvement in digital transformation initiatives?

It should be noted that 76% of the respondents hold a managerial position or above, which may affect the objectivity of their response to this question.

Approximately 1 out of 3 respondents (32%) disagree and 3% strongly disagree with the statement 'Our workforce is aware of our organisation's digital transformation process', and 13% neither agree nor disagree. Additionally, approximately a quarter of the respondents (26%) disagree with the statement 'Our workforce is engaged with our organisation's digital transformation process' and 32% neither agree nor disagree.

Digital transformation

The indecisive responses may imply that employees are not involved and/or engaged with the organisation's digital transformation efforts. Should that conjecture be true, the lack of engagement from the workforce may result in a less effective implementation of the organisation's digital strategic initiatives, as it is crucial that the whole workforce feels a sense of urgency and involvement, when one wants to effectively deploy a strategy.



Digital transformation

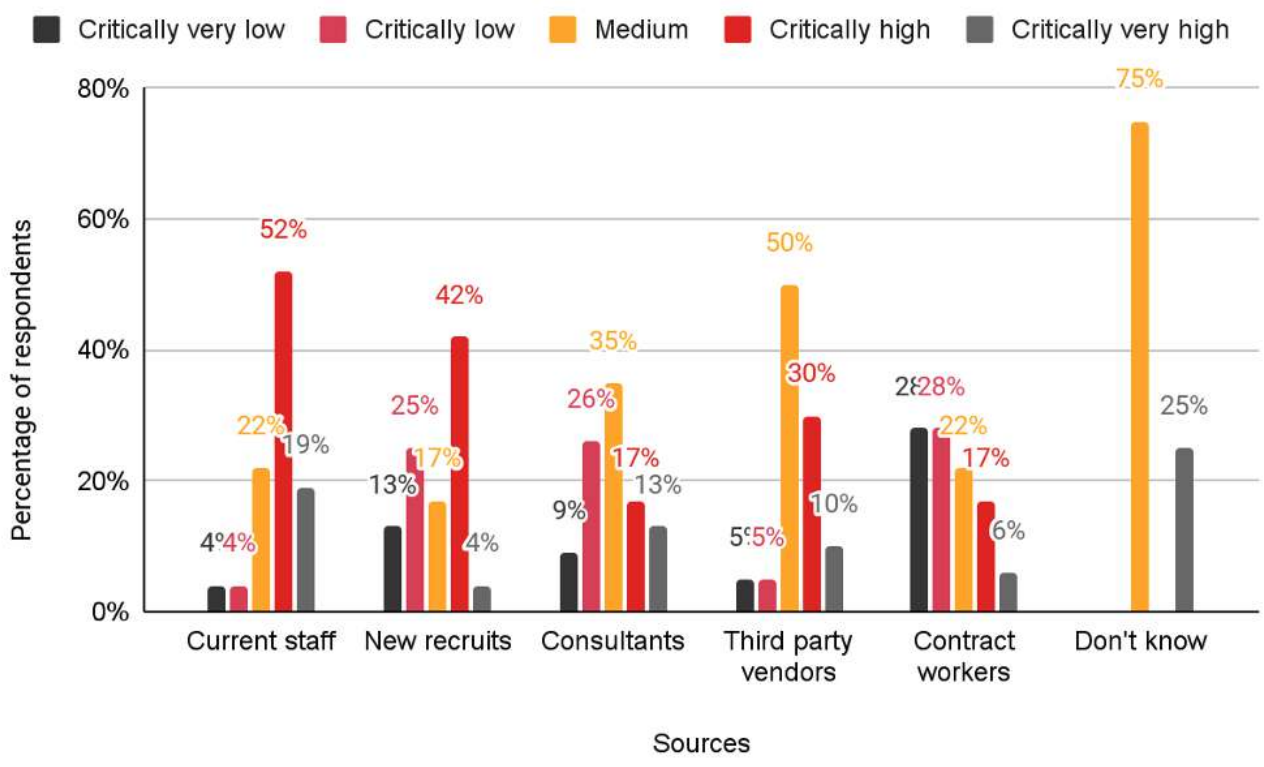
Question: Which of the following sources of talent are most critical to your digital efforts?

Most respondents state that their current employees are highly critical (52%) or critically very high (19%) to their digital efforts. The second most critical source of talent is new recruits, were 42% of the respondents indicate the recruitment of skilled personnel as highly critical and 4% indicate this is critically very high.

However, a quarter of the respondents (25%) also believe that new recruits are of low critical importance and 13% believe that new recruits are of very low critical importance. This would indicate that those respondents believe that their organisations have sufficiently skilled employees to successful meet the organisations digital objectives.

Digital transformation

Additionally, the respondents indicate that contract workers are the least critical source of talent as 28% of the respondents state contract workers to be of low critical importance and very low critical importance. This might indicate that most organisations are not interested in temporary staffing due to the importance place on digitalisation.



Digital transformation

Question: How has your organisation's use of digital technologies, processes and behaviors changed the following aspects of your workforce?

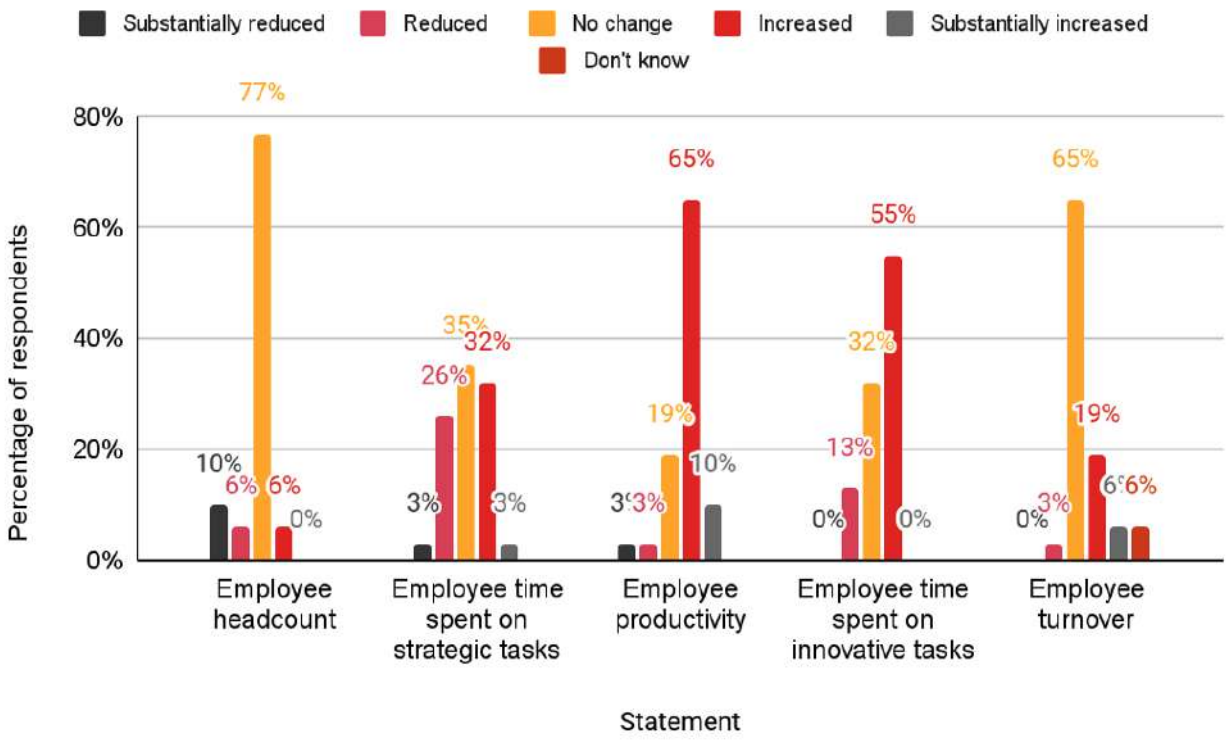
The majority of the respondents (65%) state that their organisation's employee productivity has increased and the time their organisation's employees spent on innovative tasks has increased (55%) by the use of digital technologies, processes and behaviors.

Just 10% of the respondents state that their employee headcount has substantially reduced due to the use of digital technologies, processes and behaviors. Whereas 77% of the respondents state that the implementation of digital technologies, processes and behaviors did not impact their employee headcount.

Digital transformation

Furthermore, 19% of the respondents state that their organisation's employee turnover has increased and 6% state this has substantially increased as a result of digital technologies, processes and behaviors.

In a survey conducted by PwC regarding the workforce of the future, it was found that 60% of the employees believe that few people will have stable, long-term employment in the future. Moreover, 37% of the employees are worried that automation as a result of digital transformation will put their job at risk.



Sources:

PwC (2018) 'Workforce of the future', retrieved from https://www.pwc.com/gx/en/services/people-organisation/publications/workforce-of-the-future.html

Digital transformation

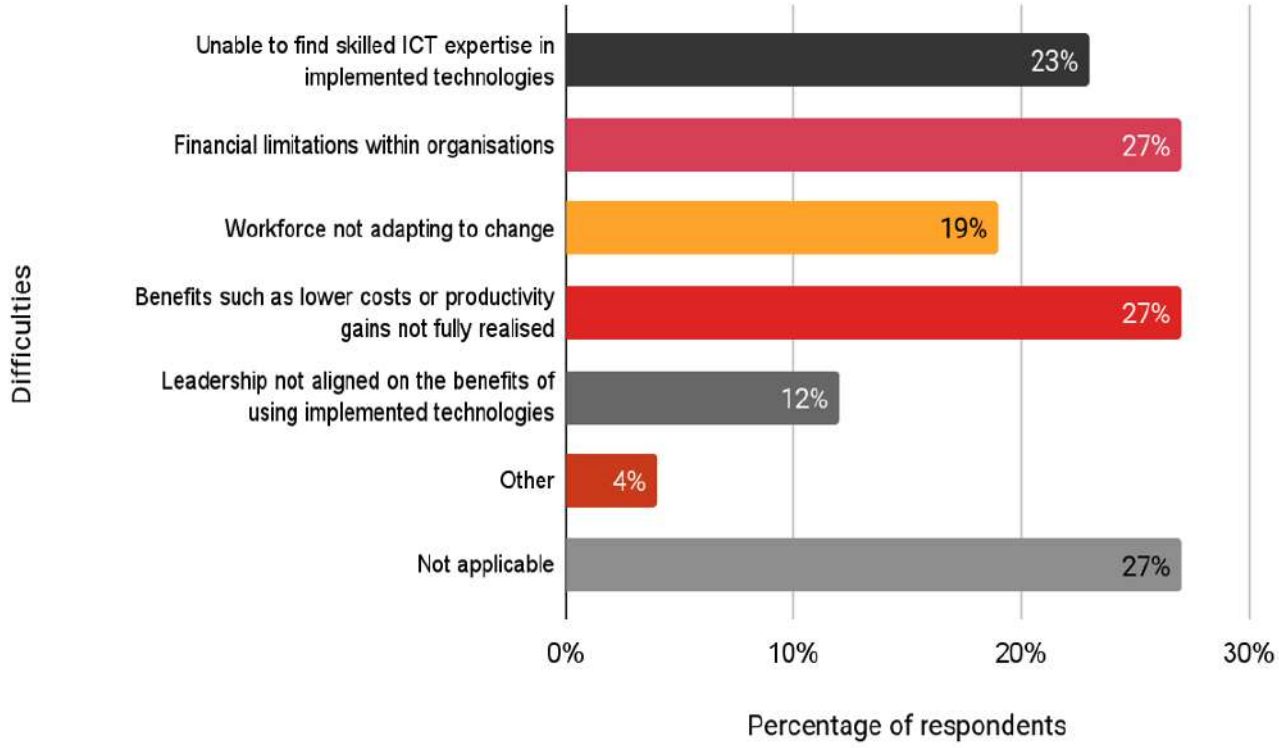
Question: Is your organisation facing any challenges in applying implemented technologies?

Approximately a quarter of the respondents (23%) state that their organisation is unable to find skilled ICT expertise in implemented technologies. Scarcity of skilled ICT professionals is a major challenge faced by all industries and will be extensively discussed in the coming pages.

19% of respondents claim that the workforce not adapting to change is a challenge their organisation faces. Furthermore, in a survey conducted by PwC with several large European insurance companies, people related challenges like resistance to change came out as one of the major challenge faced by organisations.

Digital transformation

As per Steinwart & Ziegler (2014), resistance to change is a common phenomena often shown to defend one's values, believes, abilities and/or goals also referred to as self-concept. This can be overcome by aligning one's self-concept with the reason of implementing new technologies. An organisation's leadership plays an important role in this and should demonstrate their commitment and clearly articulate the way forward.



Sources:

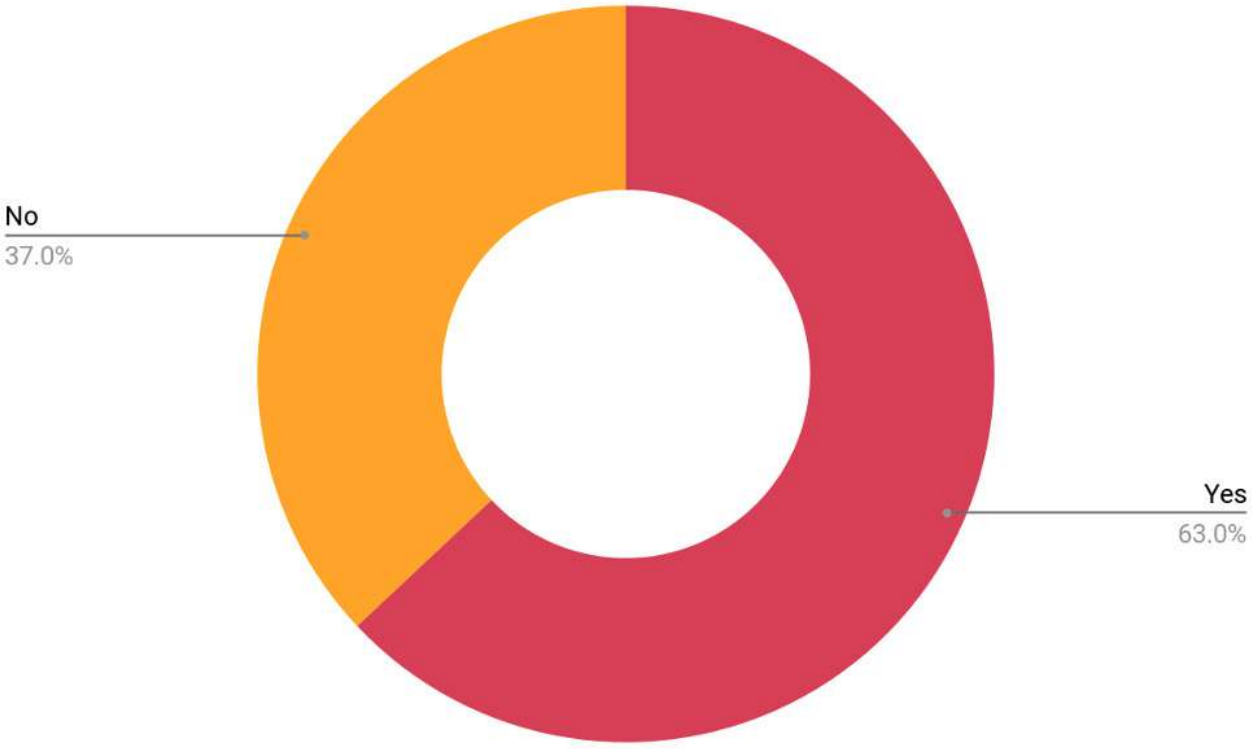
Strategy& (2021) 'Accelerating the digital transformation' retrieved from https://www.strategyand.pwc.com/de/en/industries/financial-services/accelerating-the-digital-transformation/accelerating-the-digital-transformation.pdf

Steinwart, M.C & Ziegler, J. A. (2014) 'Remembering Apple CEO steve jobs as a "Transformational leader": implications for pedagogy', Journal of leadership education, 13: 52-66

Digital transformation

Question: Would you consider that there is a significant gap between the type of skills that your current employees have now, and those required to meet your current business objectives?

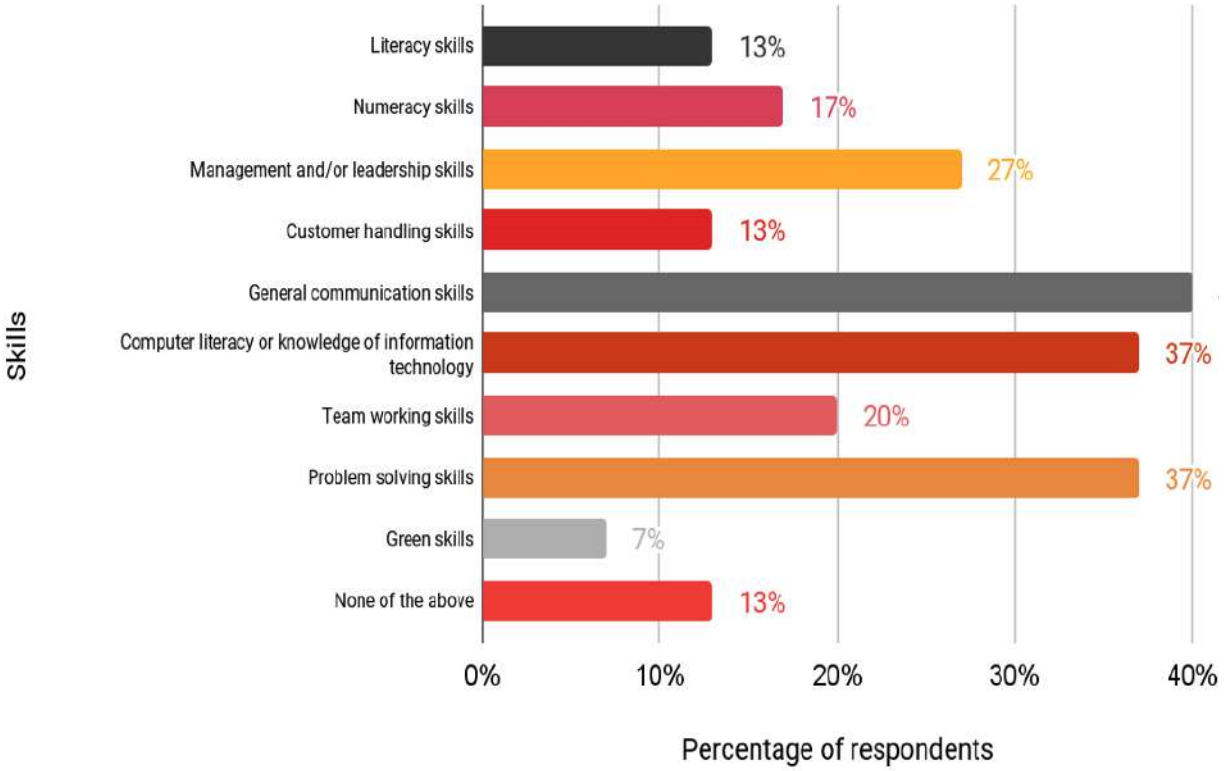
The large majority of the respondents believe that their organisation faces a significant skill gap (63%). Only 37% of the respondents believe that their current employees have the skills needed to meet their current business objectives.



Digital transformation

Question: Which, if any of these skills do you think are generally lacking in your current workforce?

The skills that are lacking the most within the respondents' organisations are general communication skills (40%), computer literacy or knowledge of information technology (37%) and/or problem solving skills (37%). In a survey conducted by PwC regarding the future of work and skills, identifying the skills needed for the future world of work was identified as being one of the most important drivers of future success. However, predicting the skills that workers will need in the future was simultaneously one of the most significant struggles that business leaders face. As a result of the pace in which digitalisation is progressing, the skills sets needed by organisations has and will continue to change. According to HR forecast, digital literacy, critical thinking, leadership skills and communication skills will be most sought after in the future



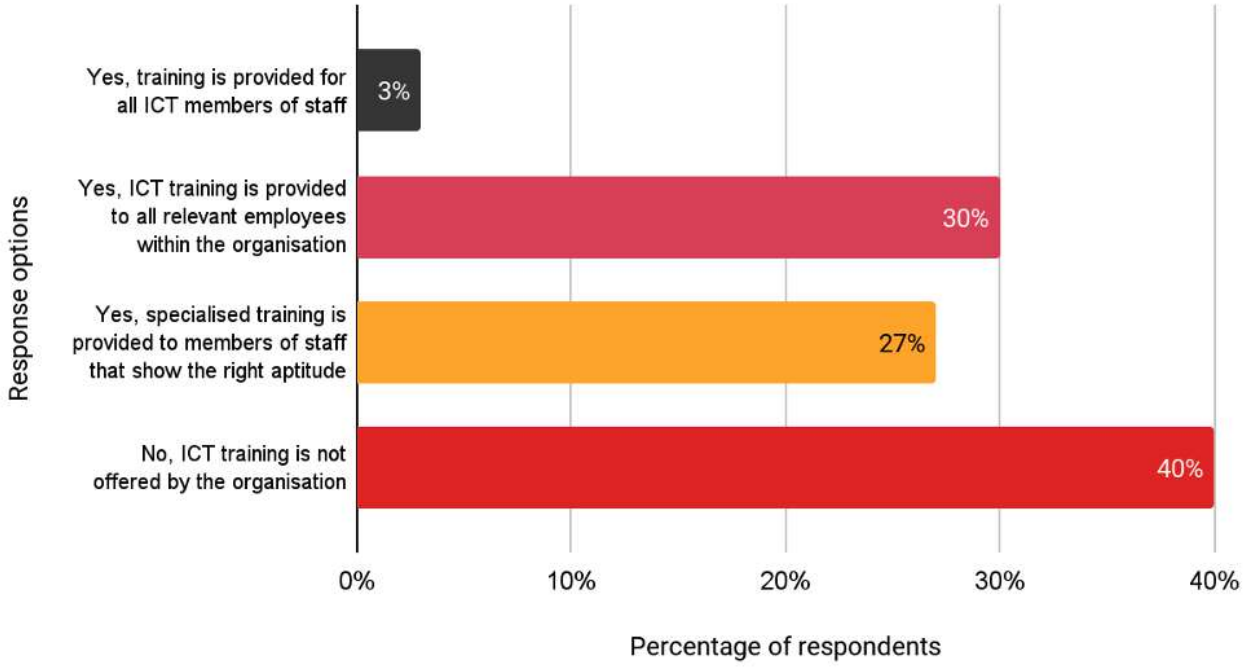
Digital transformation

Question: Does your company provide any ICT/digital related training to develop further the skills of its currently engaged workforce?

Only 3% of the respondent's organisations provide ICT training for all members of staff, 30% provide training to all relevant employees and 27% provide training to the employees with the right aptitude. However, 40% of the respondent's organisations do not provide any ICT training to their workforce.

Digital transformation

In previous questions the large majority of the respondents stated that their organisation faces a significant skill gap. Training is one of the most effective ways to upskill a workforce with the necessitated skills. Moreover, in a global survey conducted by PwC, it was found that 77% employees are ready to learn new skills or completely be retrained. As such, it is a shame such a high percentage of surveyed organisation do not provide ICT training.



Sources:

European Commission (2021) 'Digital Economy and Society Index (DESI). Retrieved from https://digital-strategy.ec.europa.eu/en/policies/desi

European Commission (2021) Digital Economy and Society Index (DESI) Malta. Retrieved from https://digital-strategy.ec.europa.eu/en/policies/countries-digitisation-performance

PwC (2021) 'Hopes and fears' retrieved from https://www.pwc.com/gx/en/issues/upskilling/hopes-and-fears.html

Digital transformation

Question: What are the key barriers to upskilling the workforce at your organisation?

Most respondents state that their organisation (87%) lacks time and availability to provide their members of staff with training opportunities, which could be a factor as to why 40% of the organisations surveyed do not provide training opportunities to their workforce.

Furthermore, 32% of the respondents state that their organisation's lack of strategic focus on training is a key barrier to upskilling their workforce. 29% state that a lack of structure for delivering training is a key barrier and 23% state that the lack of institutional knowledge is a key barrier.

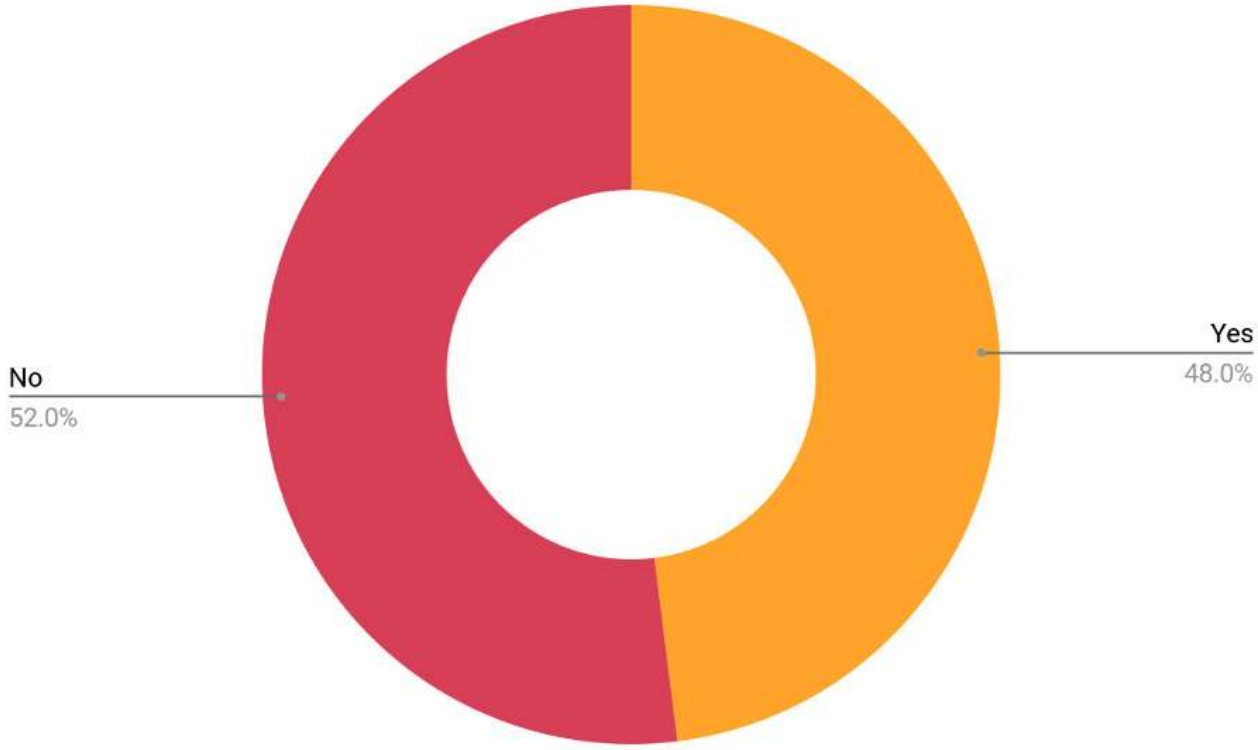
Digital transformation

The above stated barriers could possibly be avoided by outsourcing their training needs to professional institutions. This allows organisations to leverage the expertise of educational institutions to upskill their workforce, whilst limiting the time spent on providing the identified training.

Digital transformation

Question: Have you attempted to recruit staff having an ICT background over the past 6 months?

About half (52%) of the respondents did not attempt to recruit staff having an ICT background over the past 6 months whilst the remaining 48% did.



Digital transformation

Question: Do you expect to recruit more resources having strong ICT or technical background over the next two years?

The majority of the respondents (57%) expect to recruit more resources having a strong ICT or technical background over the coming two years.

Digital transformation

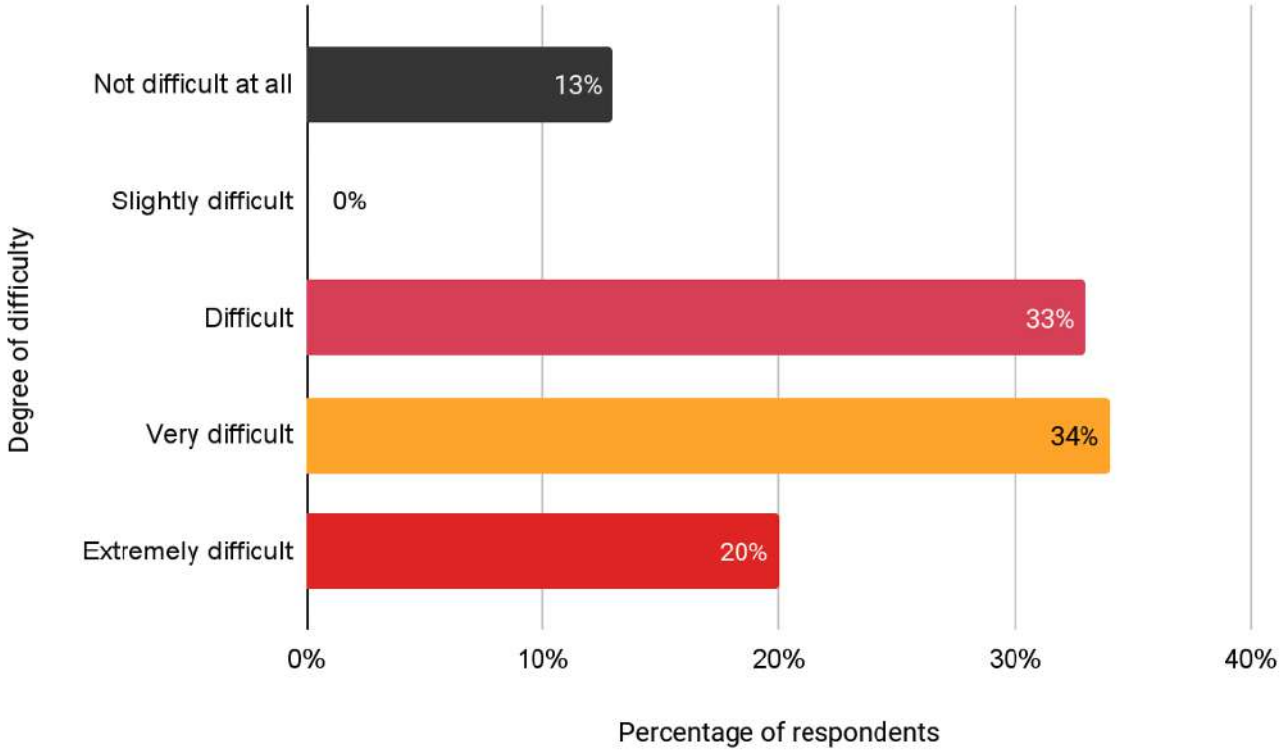
Question: In your opinion, how difficult is it to find quality candidates for any open ICT positions?

Only 13% of the respondents do not find it difficult to find quality candidates for their open ICT positions, whereas all other respondents find it challenging to varying degrees to fill such positions.

In the European Union, 55% of the organisations that recruited or attempted to recruit ICT specialists reported difficulties in filling such vacancies. The difficulties that organisations are encountering in their recruitment process is mainly caused by the scarcity of ICT specialists.

Digital transformation

Currently, 8.4 million ICT specialists are employed in the European Union, which equates to 4.3% of the total current workforce. In Malta, ICT specialist make up 4.4% of the current workforce. The European Commission have targeted that by 2030 the number of employed ICT specialists in the EU should increase to 20 million.



Sources:

European Commission (2021) 'Digital Economy and Society Index (DESI). Retrieved from https://digital-strategy.ec.europa.eu/en/policies/desi

European Commission (2021) Digital Economy and Society Index (DESI) Malta. Retrieved from https://digital-strategy.ec.europa.eu/en/policies/countries-digitisation-performance

Digital transformation

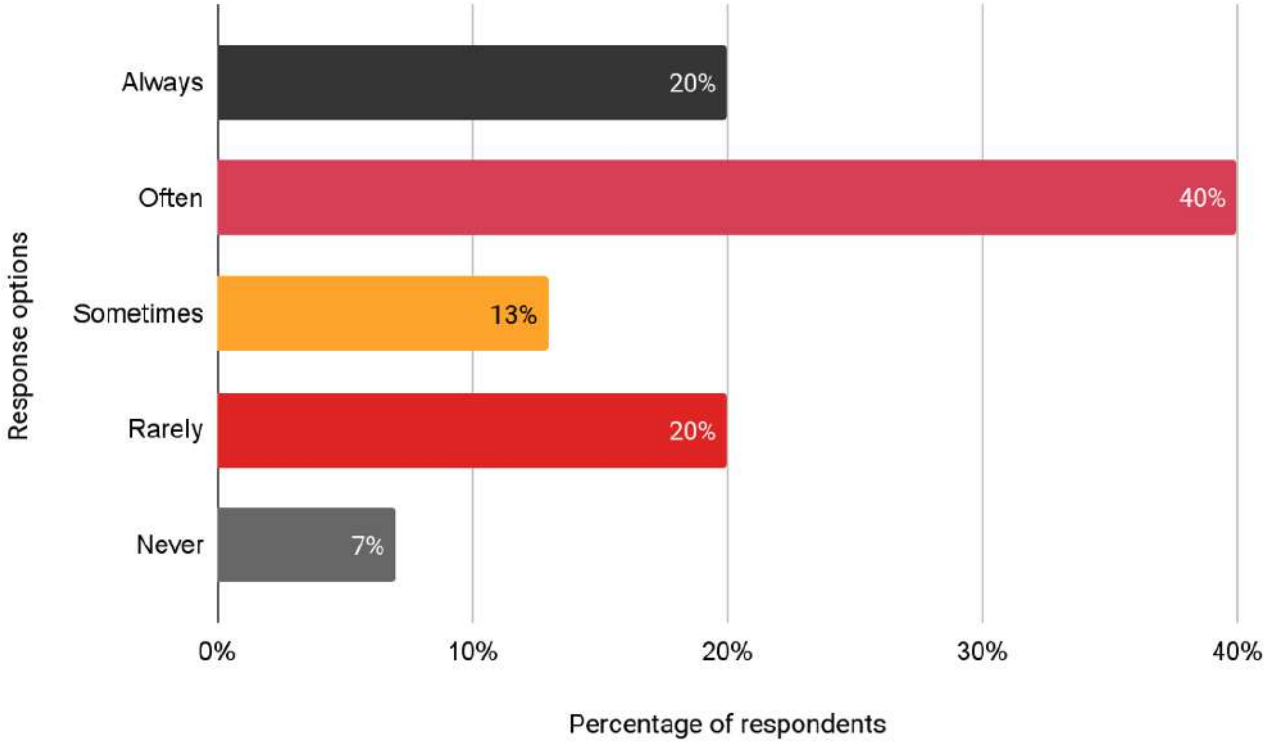
Question: On average, how frequently do your open ICT call for applications take longer than anticipated to fill due to lack of available resources in the market?

The large majority of the respondents state that their open ICT positions often (40%) or always (20%) take longer to fill than anticipated. Only 7% of the respondents state that their open ICT positions never take longer to fill than anticipated.

In line with the previous page, this indicates that there is a shortage of ICT specialists in the local labour market. Such scarcity can be overcome by attracting ICT specialists from foreign markets or educating them locally.

Digital transformation

However, only 6% of the graduates in Malta were ICT graduates in 2021, which was a decline from 7% in 2019.



Sources:

European Commission (2021) 'Digital Economy and Society Index (DESI). Retrieved from https://digital-strategy.ec.europa.eu/en/policies/desi

European Commission (2021) Digital Economy and Society Index (DESI) Malta. Retrieved from https://digital-strategy.ec.europa.eu/en/policies/countries-digitisation-performance

Digital transformation

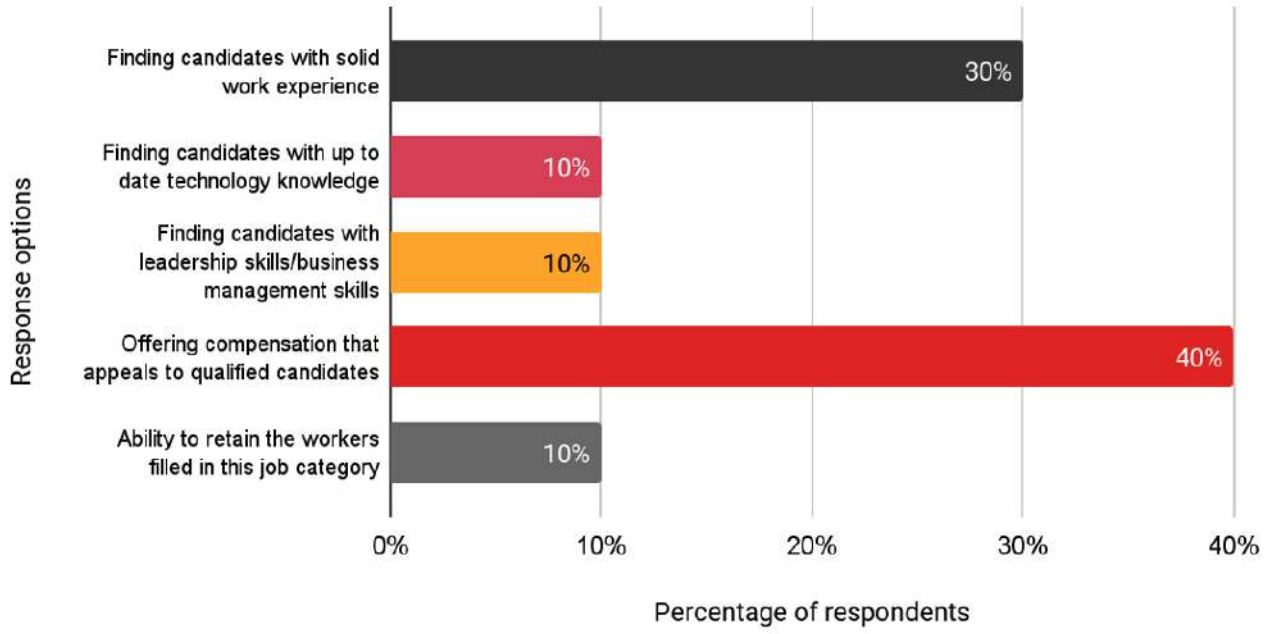
Question: What is the major challenge faced during recruitment of skilled and highly skilled ICT professionals?

The two major challenges faced during the recruitment of skilled and highly skilled professionals according to the respondents are offering compensation that appeals to qualified candidates and/or finding candidates with solid work experience.

As discussed earlier in this report, there is a current scarcity of ICT specialists in the labour market in Malta and throughout the entire European Union.

Digital transformation

The results as shown below, 30% of the organisations surveyed find it challenging to find candidates with sold work experience when trying to recruit within ICT. As per Randstad, one of the largest HR-service providers in the world, locally educated talent will develop their ICT skills quickly and are willing to accept a lower compensation in comparison to ICT professionals with solid work experience if given a chance in the labour market. Locally, we have also seen that institutions are beginning to offer apprenticeship programmes to allow students to build their resume while studying.



Sources:

Randstad (2020) 'Three benefits of hiring inexperienced workers.', retrieved from https://www.randstad.com/workforce-insights/talent-management/three-benefits-hiring-inexperienced-workers/

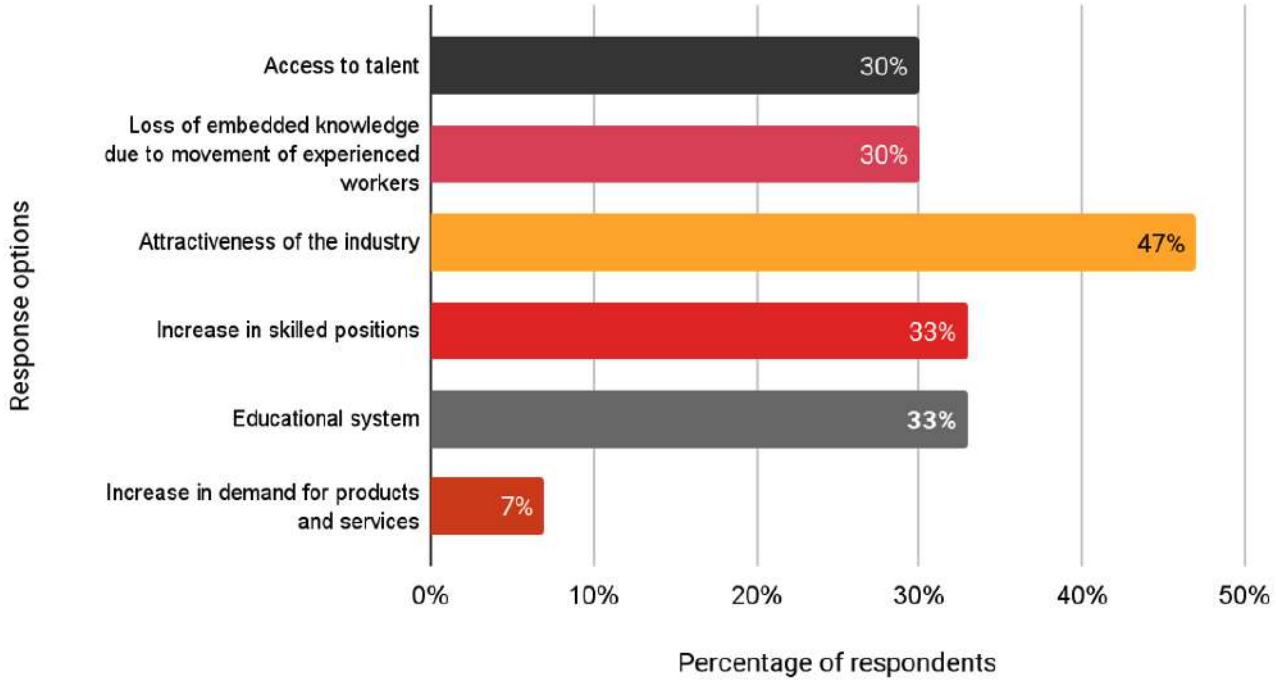
Digital transformation

Question: In your opinion, which areas will most impact future talent shortages?

Approximately half of the respondents (47%) believe that the attractiveness of their industry will impact future talent shortages. 1 of 3 respondents state that an increase in skilled positions or the educational system will impact future talent shortages. Furthermore, 30% of the respondents believe that access to talent and/or loss of embedded knowledge due to movement of experienced workers will impact future talent shortages. Whereas, only 7% of the respondents believe that an increase in demand for products and services will impact future talent shortages.

Digital transformation

Bakar, Rashid & Rufai (2015) showed that close collaboration between the business and education sector resulted in the preparation of professional graduates with employable skills. Establishing such collaboration will limit the loss of embedded knowledge, increase the attractiveness of the industry, improve the access to talent and allow for open two way communication between the business and education sectors.



Sources:

Bakar,A.R.B., Rashid, A.M. & Rufai A. U. (2015) 'Business, industry and higher education collaboration: A panacea in developing professional work-ready graduates', Mediterranean Journal of social sciences, 6: 512-518

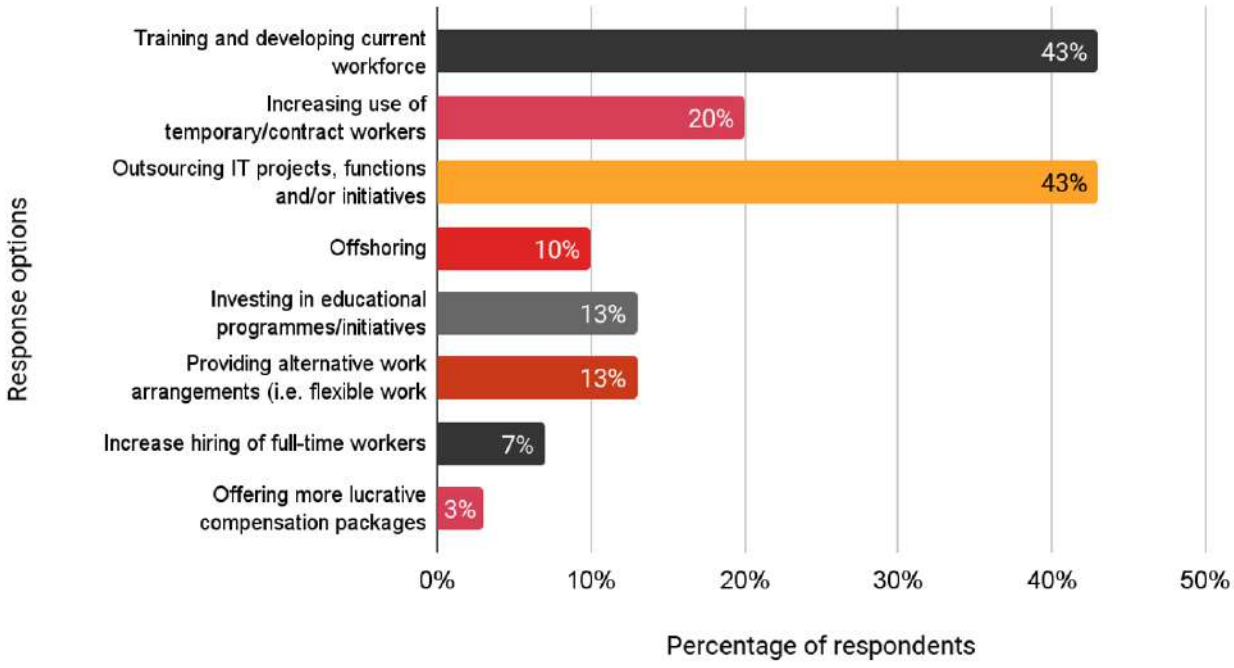
Digital transformation

Question: What solutions do you currently utilise to close the IT skills gap?

Most respondents (43%) state that their organisation's solution to closing the IT skills gap is to outsource IT projects, functions and/or initiatives. Moreover, 43% or respondents also believe that training and development the current workforce is what will close the IT skills gap. Yet, this is somewhat contradictory to the results discussed on page 52. As only 3% of the respondents stated that ICT training was provided to all ICT members of staff.

Digital transformation

A further 20% of respondents state that to close their current IT skills gap they have had to increase the use of temporary/contract workers, further emphasising the point that recruiting and retaining skilled ICT professionals is challenging within the local market.



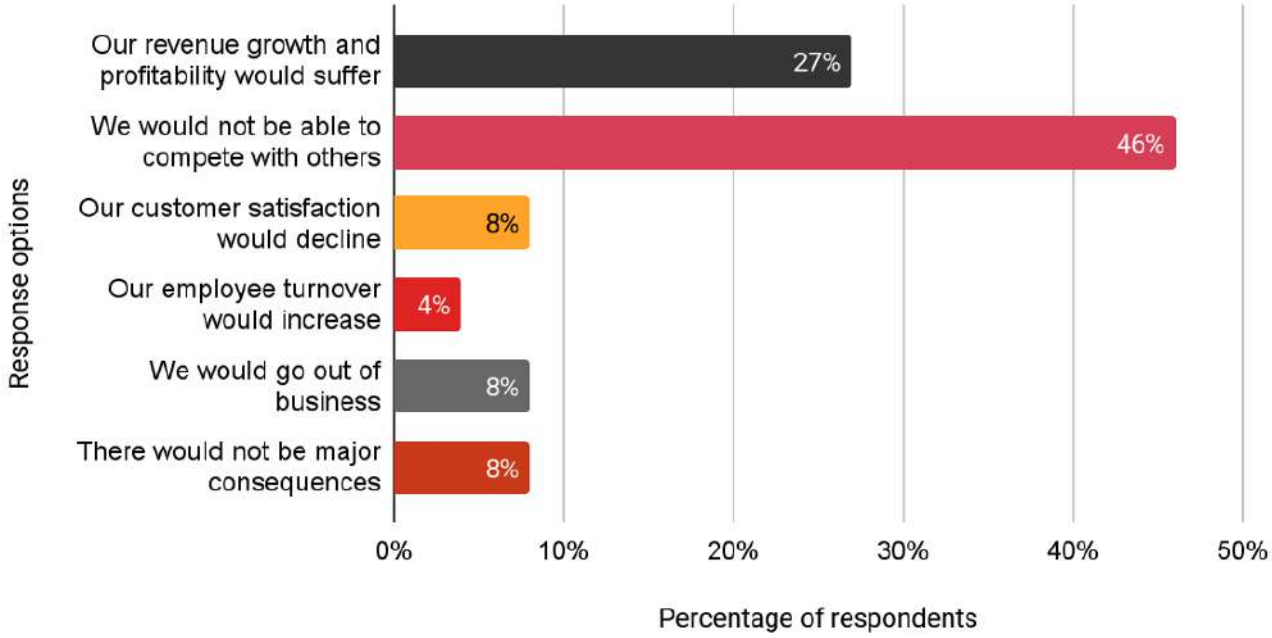
Digital transformation

Question: Which of the following consequences would your organisation face if it failed to transform into a digital company?

Almost half of the respondents (46%) state that their organisation would not be able to compete with others, should it fail to turn into a digital company. Approximately a quarter of the respondents (27%) state that their revenue growth and profitability would suffer should they not transform.

Digital transformation

However, only 8% of the respondents state that their organisation would go out of business should they fail to transform into a digital company. The response to this question and that posed on page 38 are not aligned. As when asked how strongly they agree with the following statement 'My organisation faces a survival level threat from digital disruption' only 13% agreed and 10% strongly agreed to this statement.



Digital transformation success

Respondents were lastly asked, “What is one thing you need to succeed in your digital transformation?”. This was an open-ended question and given responses included:

- More employee interest
- Gaining more knowledge
- Recruiting qualified and competent employees
- More board level input
- Commitment to vision
- Efficiency
- Recruit expertise to develop customer platform suited for industry
- Convincing top management of ICT systems
- Establish an accountability framework
- Simplifying the digital transformation to encourage employees into using it rather than being afraid of it
- Eliminate resistance to change

Annex 1 - Digital intensity technologies

Basic digital intensity

12 selected technologies

	Large	SMEs
Have a website	94%	76%
The maximum contracted download speed of the fastest fixed line internet connection is at least 30 Mb/s	92%	76%
Website has at least one of : description of goods or services, price lists; possibility for visitors to customise or design online goods or services; tracking or status of orders placed; personalised content in the website for regular/ recurrent visitors	78%	62%
Enterprises where more than 50% of the persons employed used computers with access to the internet for business purposes	56%	46%
Provide more than 20% of the employed persons with a portable device that allows internet connection via mobile telephone networks, for business purposes	47%	39%
eInvoices sent, suitable for automated processing	53%	32%
Buy medium-high CC services	48%	25%
Employ ICT specialists	76%	18%
Enterprises with e-commerce sales of at least 1% turnover	39%	17%
Analyse big data internally from any data source or externally	34%	14%
Use industrial or service robots	28%	6%
Use 3D printing	17%	5%

Source: Eurostat, European Union Survey on ICT usage and e-commerce in enterprises

Annex 2 - Glossary

Glossary index

Artificial Intelligence
The theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception and decision making.

Big Data
Extremely large data sets that may be analysed computationally to reveal patterns, trends, and associations.

Cloud computing
The delivery of computing services over the Internet ("the cloud") to offer faster innovation, flexible resources, and economies of scale.

DigiComp
A tool to improve citizen's digital competence.

Digital Economy and Society Index (DESI)
The Digital Economy and Society Index monitors Europe's overall digital performance and tracks the progress of EU countries regarding their digital competitiveness.

Digital skills in communication domain
The ability to communicate in digital environments, share resources through online tools, link with others and collaborate through digital tools, interact with and participate in communities and networks, cross-cultural awareness.

Digital skills in information domain
The ability to identify, locate, retrieve, store, organise and analyse digital information, judging its relevance and purpose. The indicator is based on five activities internet users have been able to do online during previous 3 months.

Digital skills in problem solving domain
The ability to identify digital needs and resources, make informed decisions as to which are the most appropriate digital tools according to the purpose or need, solve conceptual problems through digital means, creatively use technologies, solve technical problems, update one's own and others' competences.

Digital skills in software domain
The ability to create and edit new content (from word processing to images and video); integrate and re-elaborate previous knowledge and content; produce creative expressions, media outputs and programming; deal with and apply intellectual property rights and licences.

Glossary index

Digital transformation
The process of using digital technologies to create new — or modify existing — business processes, culture, and customer experiences to meet changing business and market requirements.

E-competence framework
A framework providing a reference of 41 competences as required and applied in an IT professional work context, using a common language for competences, skills, knowledge and proficiency levels that is applied and understood across Europe.

European Commission
The European Commission is the executive branch of the European Union.

European Union (EU)
A political and economic union of 27 member states that are located primarily in Europe.

Google suite
A Web-based set of productivity applications from Google, allowing users to share, edit and comment on online documents collaboratively.

Government e-ID
A trusted authentication mechanism for citizens and businesses to identify themselves to electronically access services from across government.

Information & Communication Technology (ICT)
Information and communication technology.

Industry 4.0
A term applied to a group of rapid transformations in the design, manufacture, operation and service of manufacturing systems and products.

Internet of Things
The interconnection via the internet of computing devices embedded in everyday objects, enabling them to send and receive data.

Programming
The process or activity of writing computer programs.

SELFIE tool
A free, easy-to-use, customisable tool to help schools assess where they stand with learning in the digital age.

Social Media
A computer-based technology that facilitates the sharing of ideas, thoughts, and information through the building of virtual networks and communities.

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