eSkills Malta Foundation

ANALYSIS OF THE GENDER GAP IN THE DIGITAL SECTOR IN MALTA

A study prepared for
The eSkills Malta Foundation
by

ascend consulting

Contents

Foreword by The Parliamentary Secretary 2
Introduction from the Chief Administrator 3
Executive Overview 4
Terms of Reference 6
Background 7
The digital sector in Malta 8
Definitions 9
Method 10
Instrument and Responses 10
Bias, limitations and interpretation of results 12
Results 13
Section 1: Female participation in digital jobs 13
Section 2: Perceptions about gender balance 16
Section 3: Awareness about the eSkills Malta Foundation Guidelines 26
Section 4: Perceived barriers to gender balance 28
Section 5: Government intervention 35
Discussion 38
Policy direction 40
Next steps 41
References 45
Annex 1: Survey email invitation 46
Annex 2: Online Survey 47



Foreword by
Hon. Clayton Bartolo
Parliamentary Secretary

As a Government, we strive on achieving a national workforce that reflects the needs and aspirations of the population as a whole and the different societies that they represent. It is, therefore, in our interest to ensure our strong commitment towards a more diverse and inclusive workforce.

Over the past years, as a Government, we have introduced various budgetary measures, aimed at further incentivising women to enter or re-enter the workforce. We were committed not only on addressing the economic aspect but also tackling the social perspective. Albeit starting from a low level, Malta registered the largest increase in the female participation rate among EU countries since 2008. According to estimates presented by the Central Bank of Malta, around half of the increase in the female participation rate since 2008 was due to the impact of reforms, which in turn, have boosted potential GDP by around 0.3 percentage points per annum.

The reform package introduced by the Government over the past budgets, ranging from tax incentives to higher public expenditure on childcare, is envisaged to continue having positive effects on the female participation rate. These reforms are seen to complement the other trends in Maltese society, such as higher education, lower fertility and the changing role of women in society, as well as more flexible work practices and the structural shift towards the services sector, which increases the demand for female work, all of which should continue to boost the female participation rate.

Furthermore, despite the large increases observed in recent years, the female participation rate in Malta remains relatively low by European standards, thus providing additional catching-up potential in the future. Judging by the figures presented in this report, it is quite evident that more effort should be directed towards ensuring that more female workers do venture in ICT based jobs and are also provided with the opportunity to excel in such jobs. In this regard, I do believe that a combination of family-friendly measures and training opportunities can narrow the gender gap without necessarily targeting a specific gender.

We have made significant progress over the past years, and while recognising such progress, we believe that there is still more to be done.



Clayton Bartolo
Parliamentary Secretary for Financial Services and Digital Economy



Introduction from Carm Cachia Chief Administrator

The Analysis of the Gender Gap in the Digital Sector in Malta is a study undertaken so ably by Ascend Consulting on behalf and under the objective guidelines set by the eSkills Malta Foundation. The study is a local continuation of another study carried out by the eSkills Malta Foundation, namely Guidelines to Increase and Retain Women in ICT. Both studies should be well-read, considered and used well in future strategy, policy and operations by all organisations in Malta.

The eSkills Malta Foundation is currently one of the leaders in Malta for encouraging girls and women to consider a digital career. Since 2016 we formed Women in ICT focus group with a primary objective to act as a platform where dialogue takes place on the subject, to help to form better policy, and also to lead, implement and support local awareness and specific events. The final target for this focus group is to increase digital skills and careers with girls, women and organisations. The foundation is pleased to see that other women in digital groups were following our example in the common effort to reduce the gender gap. It is also the right time to give the right importance to gender equality in specific technologies, especially Artificial Intelligence, which will change our future life.

The foundation firmly believes that the increase of women in the digital sector can contribute in the decrease of the supply and demand gap and that they can also bring more diversity and success to products in industry, government and education. Many digital organisations believe this and have been implementing many initiatives to support this. The European Commission has also set up various women-supportive initiatives. The Commission's Digital Economy and Society Index (DESI) measures the participation of women in the digital sector.

The enclosed study gives a snapshot of the current gender status in the digital sector in Malta for 2020 and is based on feedback gathered from well-drafted surveys. The results of this report show progress by the ICT intensive sector but also highlights that the industry and public sector has to do more if they are to benefit from a more diverse environment. In our view, the analysis gives a positive feedback, but the stakeholders need to consider all the aspects mentioned in the report so that we can work further together on these.

The eSkills Malta Foundation will continue in its work to reduce digital gaps that are unbeneficial to the sector and looks forward to supporting and collaborating with the respective stakeholders to bring Malta further amongst the elite in Europe.

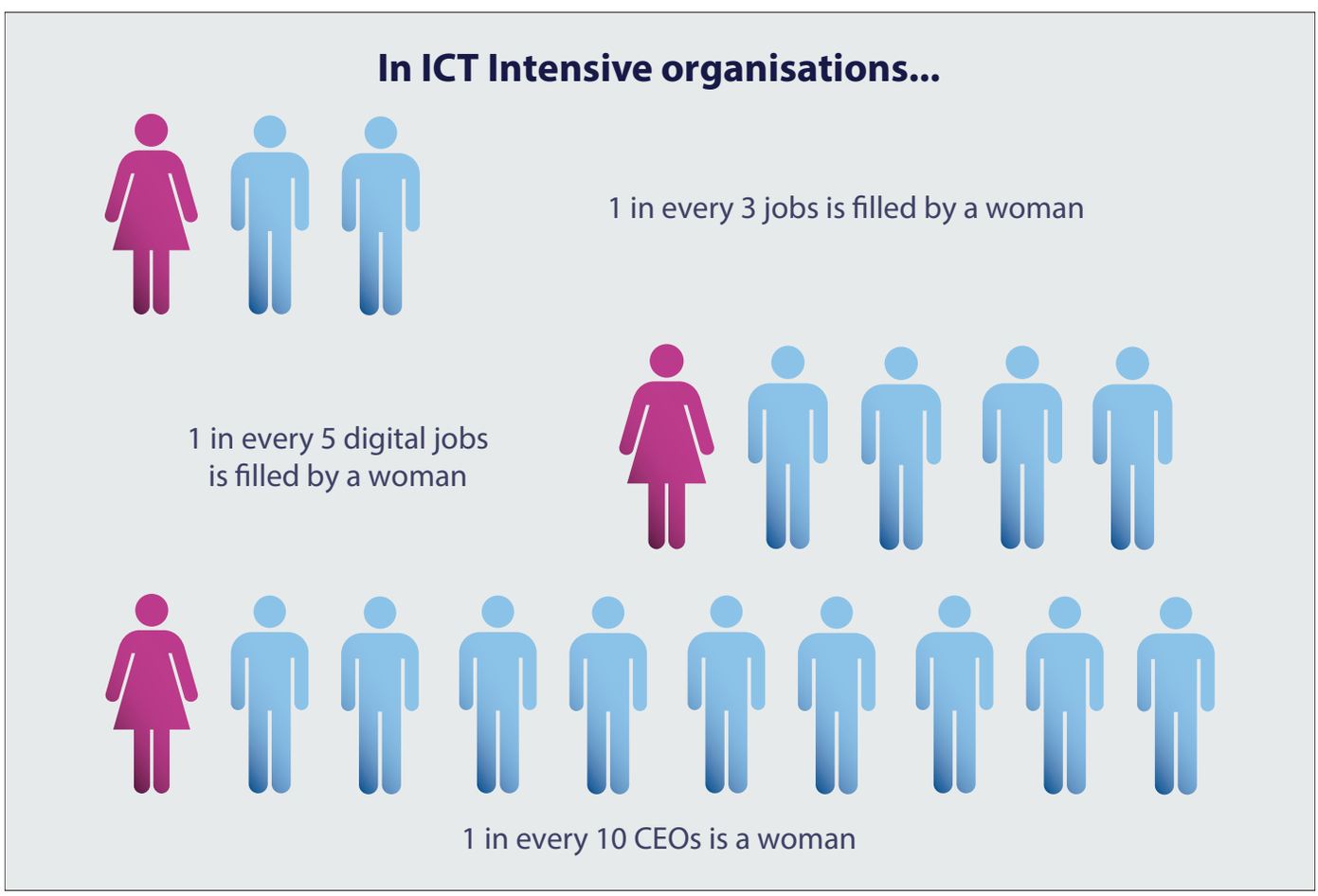


Carm Cachia
Chief Administrator
eSkills Malta Foundation

Executive Overview

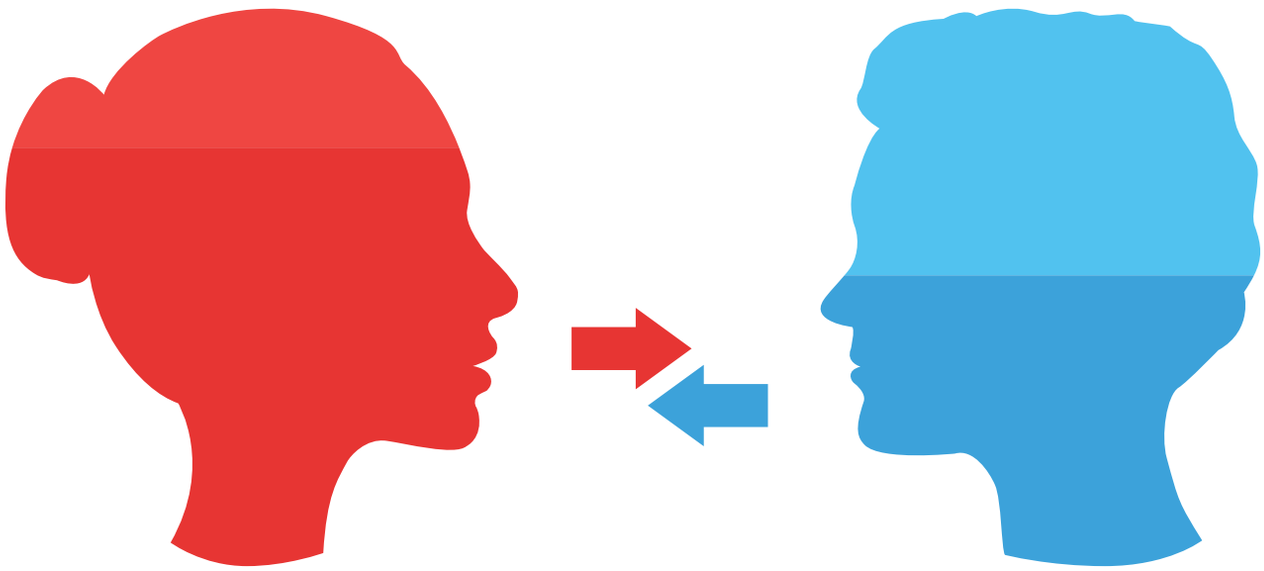
The current state of women in the digital sector is far from balanced. Girls are less likely to study ICT subjects and women are staying away from digital jobs. Moreover, the gender gap in digital jobs is growing wider. This study, commissioned by the eSkills Malta Foundation, aims to explore the gender gap in the digital sector and digital jobs in Malta, to shed light on its causes, and investigate how the gender gap impacts organisations.

Data was collected via an online survey targeting HR managers, CTOs or CEOs. A total of 116 responses were received. Responses were grouped into 4 categories, by organisation type, namely ICT Intensive, Telcos, ICT Using organisations, and the Public Sector.



The study found that amongst the respondent ICT Intensive organisations (ICT sector per se, iGaming, and Video Games) one in every three jobs is filled by a woman, but a women fill only one in every five digital jobs, and only one in every ten CEOs is a woman. The ratio of female employees was found to diminish the more technical and senior the positions became. Women engaged in ICT Intensive organisations were also most likely to be engaged in administration, support, marketing or sales jobs. The gender gap in digital jobs was found to be even wider amongst the other organisations.

Despite the male dominance, women are still encountered in all technical and senior job positions including CTO and CEO positions.



In general, respondents felt that improving gender balance in digital jobs within their organisation was desirable. However, gender imbalance was not perceived as causing problems for the organisation. Furthermore, respondents felt that recruiting women in digital jobs was harder, but noted no gender difference for retention, career progression and staff turnover.

Stereotypes and the education system were blamed for the lack of interest of females in ICT careers. Some respondents also felt that girls and women might have different preferences than males, and one's freedom to pursue a career must be respected.

Parenthood was not viewed by respondents as a barrier to pursue a digital job. However, organisations acknowledged the need for flexibility and support to enable employees, particularly the mother, to remain in employment.

Various initiatives were implemented to attract and retain female employees. However, most respondents were against forms of positive discrimination and felt that family-friendly measures and training opportunities, amongst others, can help narrow the gender gap without targeting a specific gender.

Respondents also felt that government intervention should be mostly limited to awareness-raising, improving the education system at all levels, introducing family-friendly incentives targeting both employers and employees, and monitoring. Many respondents argued that the government should refrain from forcing gender-balance interventions especially if these are not backed by studies and clear objectives.

This study closes by proposing a set of policy principles and a series of initiatives to be undertaken by the Foundation.

Terms of Reference

This study, prepared by Ascend Consulting for the eSkills Malta Foundation, explores the gender balance in the digital sector and digital jobs in Malta. The study investigated gender gaps in recruitment, retention and career advancement in digital jobs, how employers perceive the gender-gap in digital jobs, the actions undertaken or needed to attract and retain more women in digital careers.

A main objective of the eSkills Malta Foundation is to encourage girls and women to pursue digital careers. An important initiative of the Foundation was the publication of the **'Guidelines to Increase and Retain Women in ICT'** [1] in April 2018. The guidelines are targeted to all stakeholders who may have concerns about the low percentage of women in the ICT sector.

Building on the Foundations initiatives, the present study collected and analysed new data with a view to identifying:

- female gender percentages in digital jobs in (i) the ICT/digital sector per se (e.g. software companies, telecoms), (ii) the ICT/digital using industry (e.g. banks, insurance companies, retail), and (iii) central government and government entities;
- female gender ratios in the digital sector by main job levels (e.g. C-level, management, core staff) and areas (e.g. technical, business, administrative);
- percentage of organisations who read the Foundation's Guidelines; and
- current and future initiatives that address the gender gap.

Based on the study findings, a series of observations and recommendations are put forward to help the Foundation contribute towards future policy and activity.

Background

Information and communication technologies (ICT) is of increasing importance across all economic sectors. Having qualified workers in ICT is of the essence to sustain economic growth in the years to come. ICT jobs are marked by a male-dominated gender gap and trends from Europe and beyond show that this gap is widening. Policymakers and the industry consider the gender gap as a setback to social and economic development, as well as to organisational profitability and value generation potential.

A study by the European Commission in 2018 on Women in the Digital Age [2] found that:

- There are four times more men than women in Europe with ICT-related studies. The number of women taking up ICT related to higher education is decreasing when compared to 2011.
- The share of men working in the digital sector is 3.1 times greater than the share of women.
- The annual productivity loss for the European economy caused by women that leave their digital jobs and become inactive is estimated to be about €16.2 billion.
- Although female-owned start-ups are more likely to be successful, the level of participation, leadership and investment in the entrepreneurial digital sector is decreasing.

The Commission's study further estimates that if more women were to enter the digital jobs market, the European economy would benefit from yet another annual boost of €16 billion.

The 2018 McKinsey study "Delivering through Diversity" [3], covering over 1,000 companies across 12 countries, also found that companies in the top quartile for gender diversity in executive teams were 21% more likely to outperform on profitability and 27% more likely to have superior value creation.

Nevertheless, the above-mentioned imbalances in women participation in digital jobs are also echoed in the Commission's Women in Digital (WID) Scoreboard [4]. The scoreboard assesses Member States' performance in the areas of Internet use, Internet user skills as well as specialist skills and employment.

Malta Ranks 17 in the WID scoreboard [5], slightly under the EU average, thus confirming that like many other EU member states, Malta is also affected by a gender imbalance and impacted by the respective consequences.

Pertinent to note that Malta recorded no gender gaps in basic ICT use and skills for everyday personal and work-related activity. Gender balance in ICT usage by the Maltese population compares well with other EU counterparts. Furthermore, over the past years, statistics are showing young females outperform their male counterparts on many indices.

However, the WID, shows that Malta significantly lags behind its European counterparts in specialist skills and employment metrics. Only 7.6 of every 1000 females aged between 20 and 29 years were STEM graduates, against 19.1 for males (the EU average is 13.1 females, 24.9 males). Malta also has one of the highest gender pay gaps.

One must highlight that gender imbalance extends beyond the ICT sector. In Malta, only one in every five senior positions (C-level executives and non-executives) in the largest listed companies are female. This is marginally better than the EU average [6].

The Maltese Government has committed itself to address the gender gap, and in April 2019 it joined other European counterparts in signing a declaration to encourage women to play an active and prominent role in the digital and technology sectors [7].

The digital sector in Malta

The Maltese digital sector is a strategic pillar for the Maltese economy and its growth. Over the past two decades, Malta has become host to diverse yet complementary digital ecosystems, ranging from general software development to special clusters that include iGaming, Fintech and Video Games, as well as ancillary services such as technical, infrastructure, and legal support services. Data extracted from Eurostat [8], for the ten years between 2008 and 2017[1] highlights the relevance of the digital sector to the Maltese economy (See Table 1).

Like most developed western economies, despite the activity and growth, Malta suffers from a general shortage of human resources in the sector. For example, a study by the Malta Gaming Authority [9] on the iGaming sector, found that at the end of 2018, there were a total of 730 (10%) unfilled positions[2] . The majority (69%) were eventually filled within three months.

Such findings indicate that the sector is facing recruitment challenges brought about by high turnover rates, lack of talent availability and thus aggressive competition for talent.

Table 1: Digital Sector[3] performance snapshot

Contribution to GDP	€ 872,000,000 8.72% of National GDP
Total turnover	€ 2,592,000,000
Personnel costs	€ 301,000,000 11.6% of Turnover
Number of persons Employed	10,555 Persons Employed
Number of Enterprises comprising the sector	1,221 Enterprises
IT Sector's expenditure on R&D activities	€18,650,000 51.3% of Total Business Enterprise R&D expenditure (BERD)

As mentioned above, in 2018, the eSkills Malta Foundation published guidelines [1] aimed at all stakeholders who may have concerns about the low percentage of women in the ICT sector.

The guidelines, comprising of best practices from Europe and beyond, propose measures that policymakers and employers may adopt to positively attract and retain more female participants in digital career positions. The guidelines suggest a strategic combination of measures on different fronts that include awareness and education, recruitment and development strategies, and a focus on entrepreneurship and leadership.

[1] most recent data

[2] 68% of which engaged at the operational level

[3] Data [8] compiled for all economic operators (NACE2) involved in the manufacturing (C26.1, C26.2, C.26.3, C26.4 and C26.8) and services industries (G46.5, J58.2, J61, J62, J63.1 and S95.1) that produce goods and services intended to capture, transmit and display data and information electronically.

Definitions

This study is about women's participation in digital careers in Malta. Insight was generated from (i) the ICT sector per se, (ii) other ICT using sectors, and (iii) the public sector. The inclusion and distinction of these three categories are important as the employment characteristics and needs of each category are different.

Technological developments of the past decade have blurred the boundaries of what constitutes the ICT sector and which companies qualify as such. Airbnb, Bolt and Revolut are examples of companies that operate in different service sectors but are mostly tech giants. Banks, airlines and retailers are increasingly dependent on their complex ICT systems. Governments are no exception as their ICT infrastructure is behind most of their operations. The NACE categorisation might no longer be the best tool to identify and group digital organisations.

Furthermore, digital talent offers a significant competitive advantage on many operational fronts and is by no means exclusive to one sector. Whilst the ICT sector may be the biggest recruiter of digital talent, many organisations operating in other sectors, including the public sector, depend on digital talent to build and scale their operations. The digital jobs market is becoming extremely competitive, as its relevance reaches far beyond the traditional ICT/digital sector. The digital jobs market cannot be understood unless the whole market is taken into consideration.

Therefore, for consistency and completeness, some definitions and categorisations will be adopted in this study.

The term **digital sector** will assume the same definition the OECD [10] applies to the 'ICT Sector', which equates the sector with the production of goods and services primarily intended to fulfil or enable the function of information processing and communication, including transmission and display, by electronic means.

A **digital job** will imply a job position that requires some degree of ICT practitioner skills or e-Business skills as defined by Eurostat [11]. Eurostat defines ICT practitioner skills as *'the capabilities required for researching, developing, designing, strategic planning, managing, producing, consulting, marketing, selling, integrating, installing, administering, maintaining, supporting and servicing ICT systems'. Eurostat defines e-Business skills as 'the capabilities needed to exploit opportunities provided by ICT, notably the internet; to ensure more efficient and effective performance of different types of organisations; to explore possibilities for new ways of conducting business/administrative and organisational processes; and/or to establish new businesses'.*

For the purposes of this study, after considering the objectives of the study, and in view of the local context, the analysed respondent organisations have been categorised into four groups:

1. **ICT Intensive:** All companies considered as forming part of the ICT Sector as defined in NACE, as well as other organisations where ICT is a core part of the product/service offering and where ICT recruitment plays major strategic relevance. Therefore, this group also includes iGaming and Video Games production organisations, and MITA[4].

2. **Telco:** The three main telecommunications operators in Malta[5].

3. **ICT Using:** All other sectors that still require substantial ICT capacity and where ICT serves as an enabler and a means to achieve product/service differentiation. This group thus includes financial services, manufacturing and retail, amongst others.

4. **Public sector:** Public services providing entities, excluding MITA.

[4]MITA (Malta Information Technology Agency) is a public entity that manages the implementation of IT programmes in Government to enhance public service delivery and provides the infrastructure needed to execute ICT services to Government.

[5]Telcos were not included with the ICT Intensive because: (i) All 3 operators replied to the survey and therefore one can safely draw specific inferences on this category. (ii) Data obtained from Telco was substantially different (an outlier) from other ICT Intensive players, most likely due to their size, operations and history. Inclusion of Telco in the ICT Intensive would have skewed the findings.

Method

Data was collected via an online survey between December 2019 and January 2020. A total of 350 organisations, identified from databases accessible to Ascend Consulting and the eSkills Malta Foundation, were contacted via email and invited to participate in the survey. Several stakeholder organisations and multipliers[6] have supported the outreach by sharing a link to the survey via social media or internal mailing lists. Further targeted dissemination of the survey has been carried out via social media networks by both Ascend Consulting and eSkills Malta Foundation.

Instrument and Responses

The survey (See Annex 1 and 2) was intended to be filled by the most senior ICT person in the organisation, the HR manager if the organisation employed mostly ICT specialists, or directly by the CEO or equivalent if the organisation was small. The survey was structured in 5 sections.

Table 2: Response distribution by organisation size

Section	*Section title*	*Focus of analysis*
1	Overview of female participation in digital jobs	Quantitative
2	Perceptions about gender balance	Quantitative
3	Awareness about the eSkills Malta Foundation Guidelines	Quantitative
4	Perceived barriers to gender balance	Qualitative
5	Expected Government intervention	Qualitative

Sections 1 and 2 served slightly different questions to respondents from different organisation categories. Questions were adapted to the specific contexts of the respective categories.

In total, 116 responses were submitted, of which 97 were considered valid for Sections 1, 2 and 3. A total of 19 entries were left out from the quantitative analysis due to any of the below reasons:

- multiple entries were entered by the same organisation,
- educational institutions were excluded as ICT teaching staff falls outside the scope of the study, and
- the number of employees within the organisation was deemed as too small to be relevant (e.g. self-employed).

As outlined in tables 2 and 3, data was captured from across all the four sector categories and from organisations of different sizes.

[6]Malta Employers Association, Malta Chamber of Commerce Enterprise and Industry, Malta Chamber of SMEs, Malta Communications Authority, Business and Professional Women (Valletta) Malta, MITA Innovation Hub, Gaming Malta, and Tech.mt

Table 3: Response distribution by organisation size

Size	ICT Intensive	Telco	ICT Using	Public Sector	Total
<10	12		5	1	18
10+ & <50	11		11	1	23
50+ & <250	13		14	4	31
250+	7	3	10	5	25
Total	**43**	**3**	**40**	**11**	**97**

Table 4: Response distribution by industry and categorisation

	Count
ICT Intensive	43
Computer games	1
ICT	34
iGaming	8
ICT Using	40
Financial services	11
Manufacturing	7
Other	14
Retail	8
Public Sector	11
Telco	3
Total	**97**

However, all 116 received responses were considered for the qualitative analysis based on replies to sections 4 and 5 of the survey. Qualitative responses were coded and categorised through an inductive reasoning approach to identify patterns, resemblances and regularities in replies, and then extract main summary findings.

Bias, limitations and interpretation of results

It is important to bring to the attention of the reader the biases and limitations of the study. These mostly result from the complexity of the subject matter and the choice of research method pursued. These biases and limitations must be seriously considered in the interpretation of the findings and in drawing any inferences.

Sampling has been based on accessible databases that are not exhaustive or representative. An exhaustive accessible list of organisations that fit the target population does not exist and cannot be easily compiled. Furthermore, since organisations are so diverse in size, operations and target market, achieving a statistically representative sample might not be possible, leaving census as the only viable data collection option.

Furthermore, the survey was voluntary, and entities with an interest in the topic might have had a higher propensity to reply over others.

Therefore, results from sections 1, 2 and 3 are representative only of the respondent population and no generalisation can be assumed beyond.

However, results can provide an opportunity to expose organisation trends, and find initial indications that corroborate, or otherwise, policy assumptions. The results of this study are particularly suited to guide the development of future studies on the subject matter.

Furthermore, sections 2, 4 and 5, constitute perceptions as expressed by respondents. It is important for the reader to appreciate that the survey has measured the respondents' thinking and beliefs. Respondent perceptions are shaped through experiences and interactions and are often influenced by culture-induced biases and wrong or incomplete information. However, the study provides valuable insights as it exposes the way decision-makers in organisations think, what they know and what they believe. On the other hand, respondent perceptions are not to be construed as an exhaustive explanation of the gender gap and how it should be addressed.

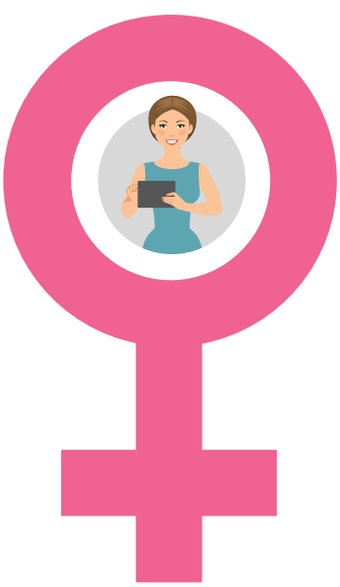
Results

Section 1: Female participation in digital jobs

The first section of the survey sought to capture basic data about organisation size and industry, as well as gender balance at different employment levels within the organisation. Different data was sought from different organisation categories as follows:

- **ICT Intensive and Telcos:** Data about all staff at all main employment levels were captured. Special attention was given to staff engaged at management levels, as well as product development and delivery.
- **ICT Using organisations and Public Sector:** Data about all employees in digital jobs (typically the staff in the ICT function/department) in such organisations was deemed relevant for the scope of the study.

Female participation in ICT organisations

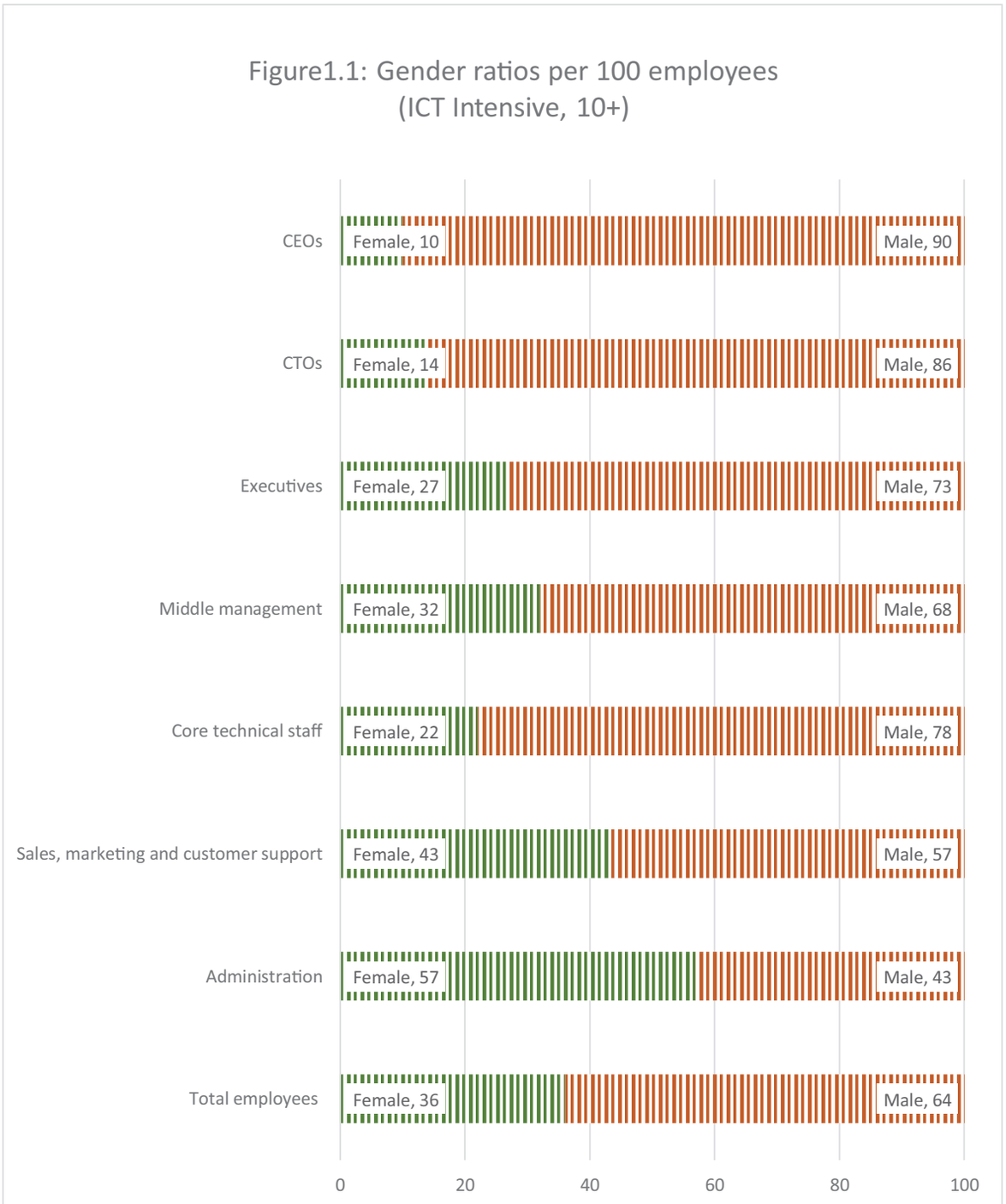


1 in 3 employees is
FEMALE

The female to male ratios in ICT intensive organisations employing 10 or more (n = 22), and across the various employment levels, is presented in Figure 1.1. Patterns that emerge from this data show that:

- only one in three employees is female,
- the higher the positions, the less female participation,
- the more technical the position, the less likely a female will fill the post, and
- females are mostly engaged in administrative roles – likely the least strategic and technical roles.

It is important to highlight that a quarter of respondents in this group did not disclose data about female participation within their organisation. This might indicate that respondents are not willing to share this information, or that such data is not being collected by the organisation.



In nascent ICT Intensive companies (n=12), i.e. with less than 10 employees, excluded from the above analysis, 5 out of the 12 CEOs were females. Whilst there is not enough data to explain this difference in CEO gender between nascent and mature ICT Intensive organisations, one can speculate that CEOs in young small companies are usually also the founders and part-owners whilst in larger older setups, the CEO is an employee. On the other hand, only 2 out of 12 CTOs were female, showing the same levels as larger counterparts.

Telco

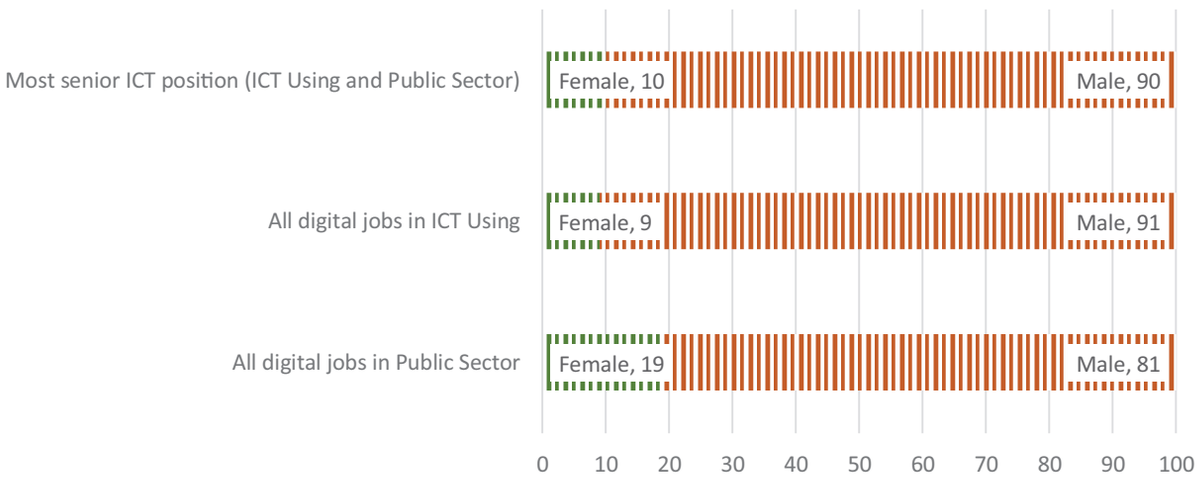
One telco operator has both a female CEO and a female CTO, whilst the other two main operators have males in both positions. However, not all 3 Telco companies provided gender ratios data for their staff, and therefore, no meaningful gender analysis can take place for this group.

ICT Using Sectors and Public Sector

In contrast with the ICT Intensive, respondents for other ICT Using sectors and Public Sector categories showed huge diversity in gender balance within their ICT functions. Such diversity can be attributed to organisational history and legacy, and the degree of importance ICT plays to the organisation.

Results clearly indicate that digital jobs in ICT Using Sectors and Public Sector are dominated substantially by males (see Figure 1.2).

Figure 1.2: Gender ratios per 100 employees
(ICT Using Sectors and Public Sector)



Section 2: Perceptions about gender balance

Section 2 sought to capture respondent perceptions about common beliefs on recruitment, retention and career progression. Respondents were presented with a series of Likert scale questions (Strongly agree -> Strongly disagree). Different organisation groups were served with a slightly different set of questions, as outlined in Table 5 below.

Table 5: Perception questions as presented to respondent groups

	ICT Intensive and Telco		ICT Using and the Public Sector groups
1	We need more female employees in our organisation	1	It is harder to recruit female talent for ICT jobs than males
2	Gender imbalance is a problem in our organisation	2	We need more female employees amongst our ICT employees
3	Recruiting female employees for ICT jobs is harder than recruiting males	3	Having gender imbalance amongst our ICT employees can cause problems
4	Male employees tend to progress faster in an ICT career	4	Male ICT employees tend to progress faster in an ICT career
5	Female employee turnover tends to be higher than that of male counterparts	5	Female ICT employee turnover tends to be higher than that of male counterparts
6	It is harder to retain female employees in the medium to long term	6	It is harder to retain female ICT employees in the medium to long term

The objective of this section was to understand whether organisations, as employers, agree with statements that are often encountered in policy documents and the media. Findings represent respondents' subjective beliefs relative to their organisational context, experiences and culture.

In some instances, a strong diversity in responses can be observed, sometimes more pronounced for specific organisation groups.

ICT Intensive and Telco

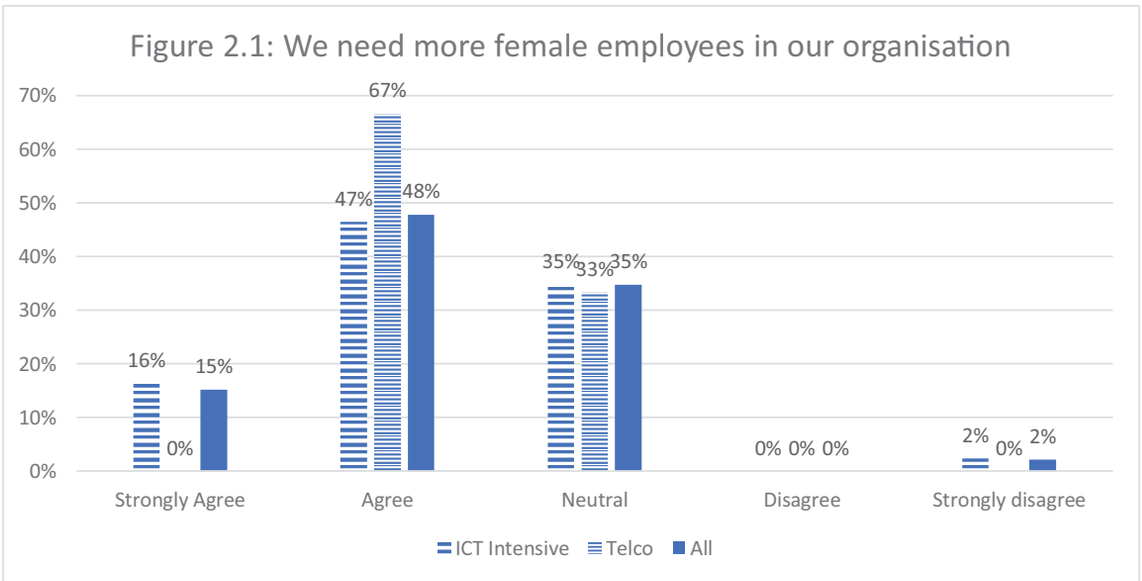
In general, 63% of the respondents from these groups agree their organisation needs more female employees (See Figure 2.1). However, when asked whether gender imbalance is a problem for their organisation (See Figure 2.2), the ICT Intensive respondents disagreed with such statement, thus overall giving mixed responses. This might be caused by different organisational culture and priorities and/or respondents giving a different interpretation to the wording ('gender imbalance is a problem in our organisation').

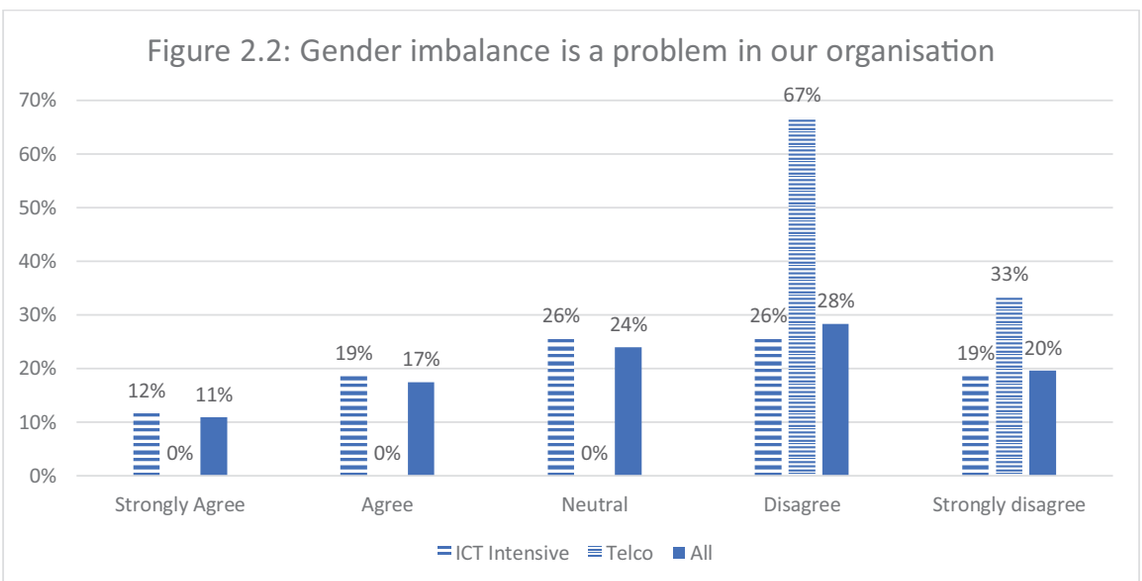
63%



of ICT Intensive & Telco organisations
agree that their organisation needs more female employees

Respondents from Telcos did not feel that gender-balance is a problem for their organisation. Telcos are substantially unique in size and type of operations, having a good proportion of staff not engaged in digital jobs. For these organisations, gender imbalance in digital jobs might be offset by non-technical functions.


Figure 2.1: We need more female employees in our organisation
70%
60%
50%
40%
30%
20%
10%
0%
16%
0%
15%
47%
67%
48%
35%
33%
35%
0% 0% 0%
2%
0%
2%
Strongly Agree
Agree
Neutral
Disagree
Strongly disagree
ICT Intensive
Telco
All


Figure 2.2: Gender imbalance is a problem in our organisation
70%
60%
50%
40%
30%
20%
10%
0%
12%
0%
11%
19%
0%
17%
26%
0%
24%
26%
67%
28%
19%
33%
20%
Strongly Agree
Agree
Neutral
Disagree
Strongly disagree
ICT Intensive
Telco
All



Statements about recruitment, retention and career progression of female employees attracted mixed responses. The majority, 58% of ICT Intensive and Telco respondents, feel that indeed it is harder to recruit females (See Figure 2.3).

However, most respondents rejected claims that female employees are harder to retain or that they face slower progress in their career. Only 22% agreed that it is harder to retain female employees in the medium to long term (17% neutral), 7% agree that female employee turnover tends to be higher than that of male counterparts (41% neutral), and 27% agree that male employees tend to progress faster in an ICT career (26% neutral) (See Figures 2.4, 2.5 and 2.6).

One cannot claim that the organisations do not ascribe to these statements since the number of neutral positions and agreements, taken together, were still relatively significant. However, the overwhelming position adopted by respondents seems to indicate that beyond the initial difficulty of recruiting female employees, the retention and career progressions are not a gender-related issue. These findings merit further investigation through future research initiatives.

Figure 2.3: Recruiting female employees for ICT jobs is harder than recruiting males

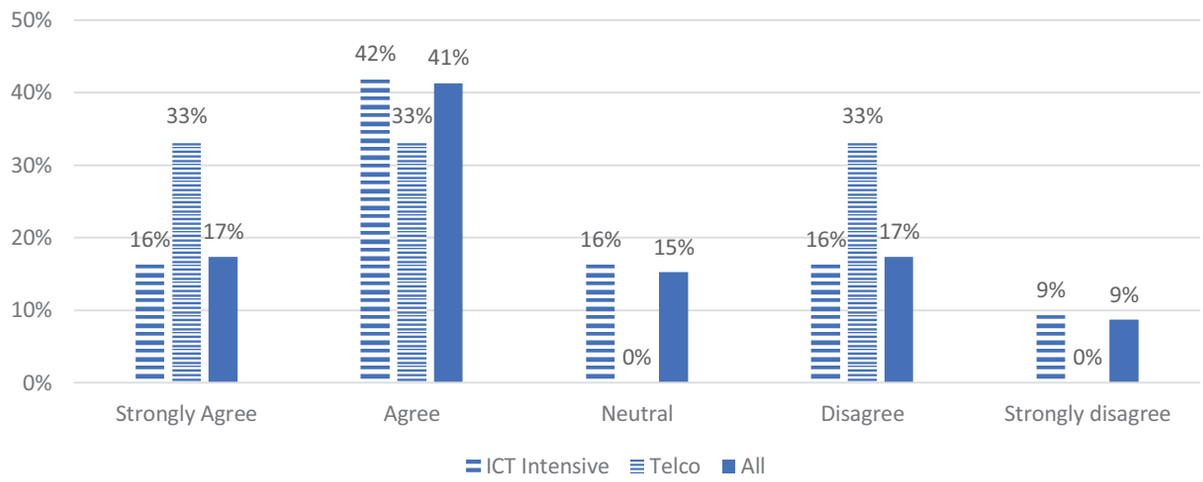


Figure 2.4: It is harder to retain female employees in the medium to long term

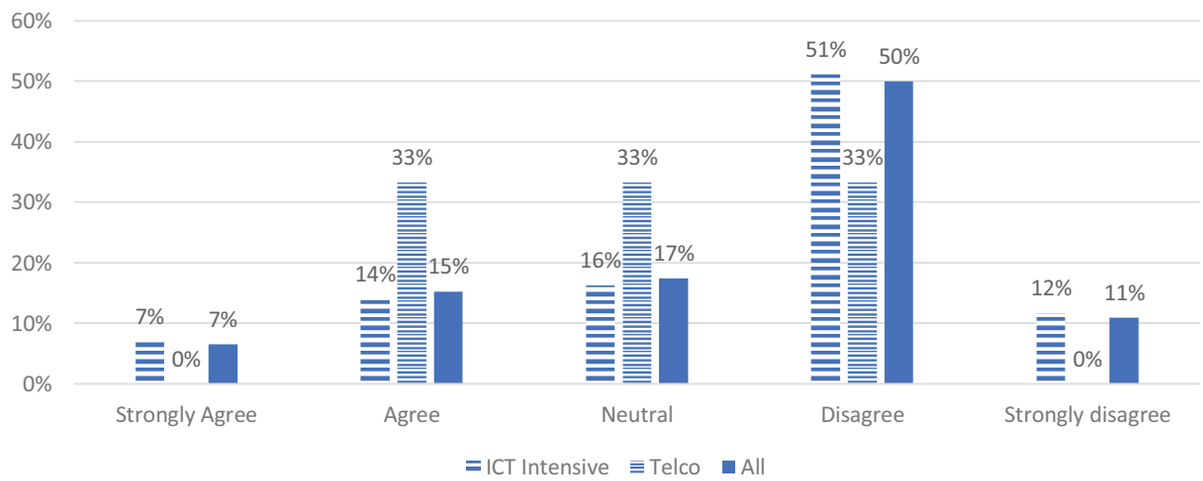


Figure 2.5: Female employee turnover tends to be higher than that of male counterparts

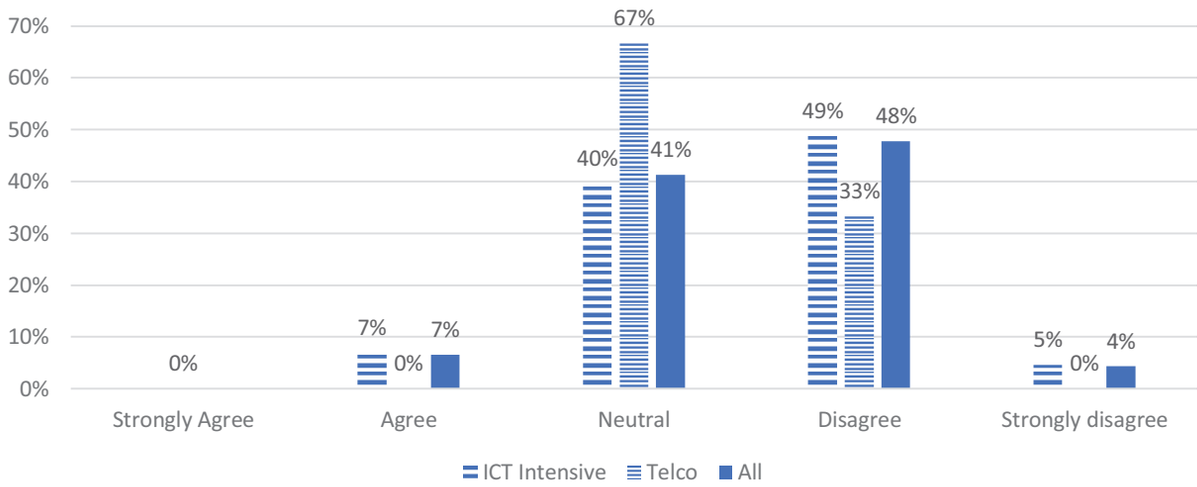
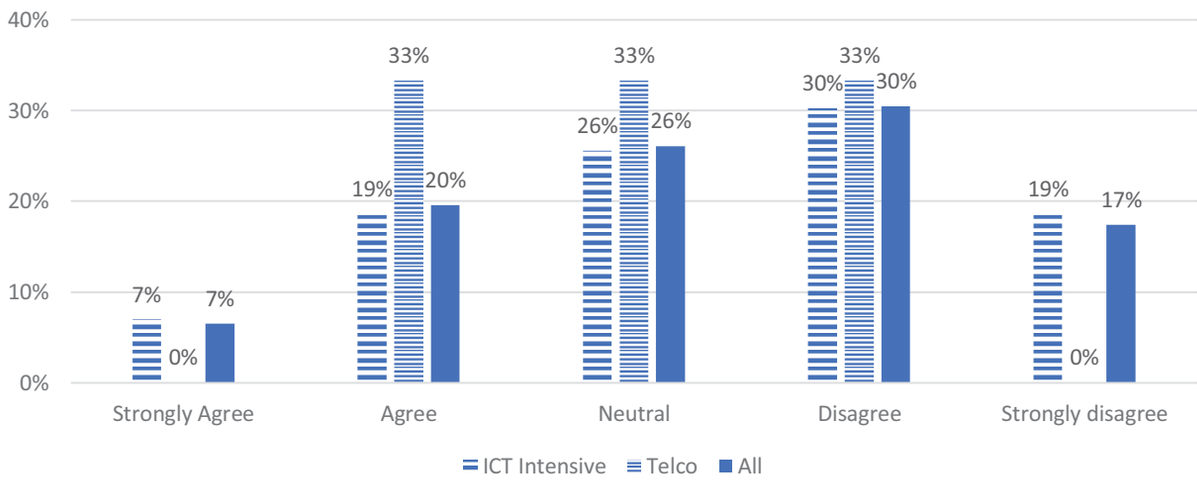
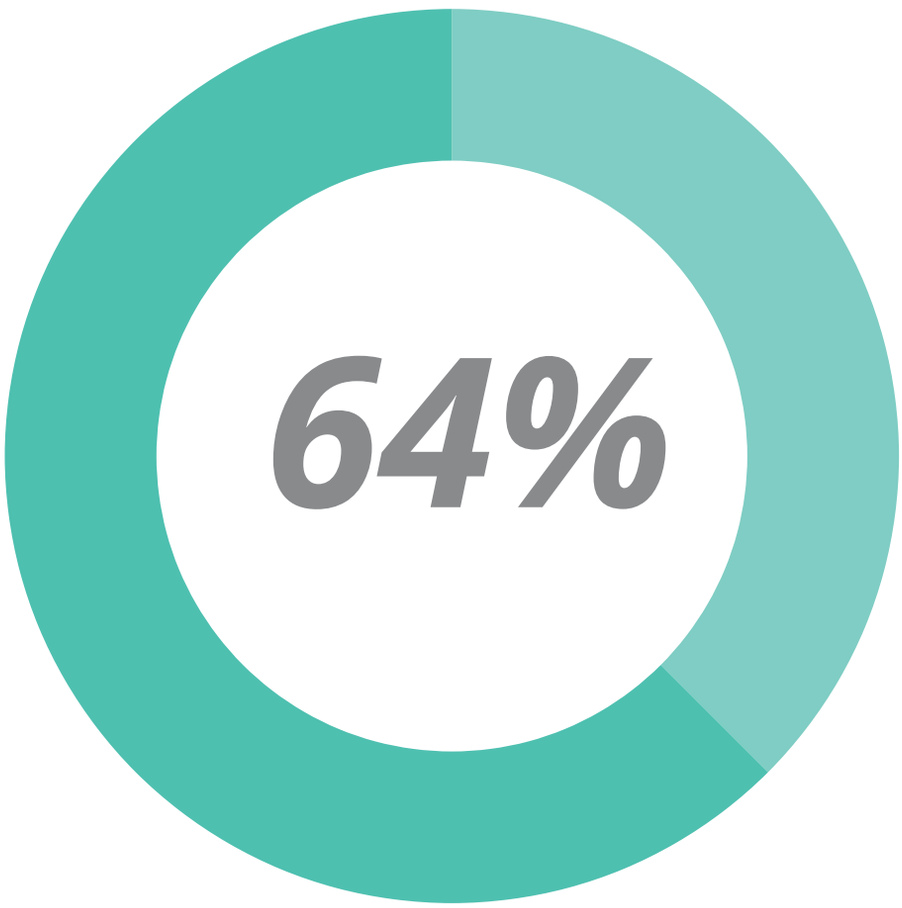


Figure 2.6: Male employees tend to progress faster in an ICT career



ICT Using and the Public Sector groups

The statements presented to the ICT Using and Public Sector groups focused on employees engaged exclusively in digital jobs.



of respondents from ICT Using organisations & Public Sector **feel that there is a need for more female ICT employees**

In total, 64% of respondents from ICT Using organisations and Public Sector feel that there is a need for more female ICT employees (See Figure 2.7).

Respondents from the ICT Using group do not think that gender imbalance is a problem for their organisation whilst the Public Sector respondents were neutral. This echoed the responses from the ICT Intensive and Telco groups when presented with a similar statement.

Figure 2.7: We need more female employees amongst our ICT employees

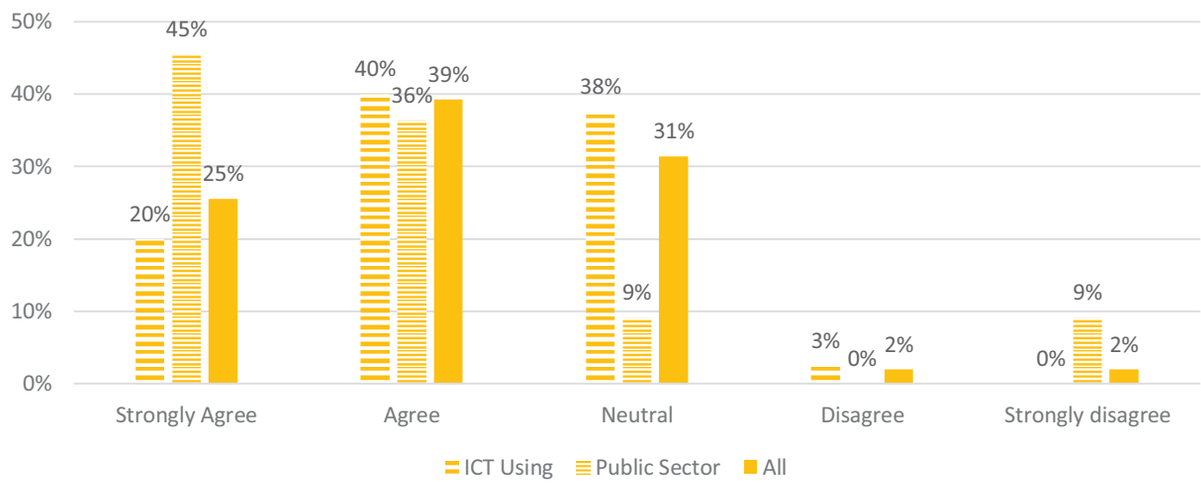
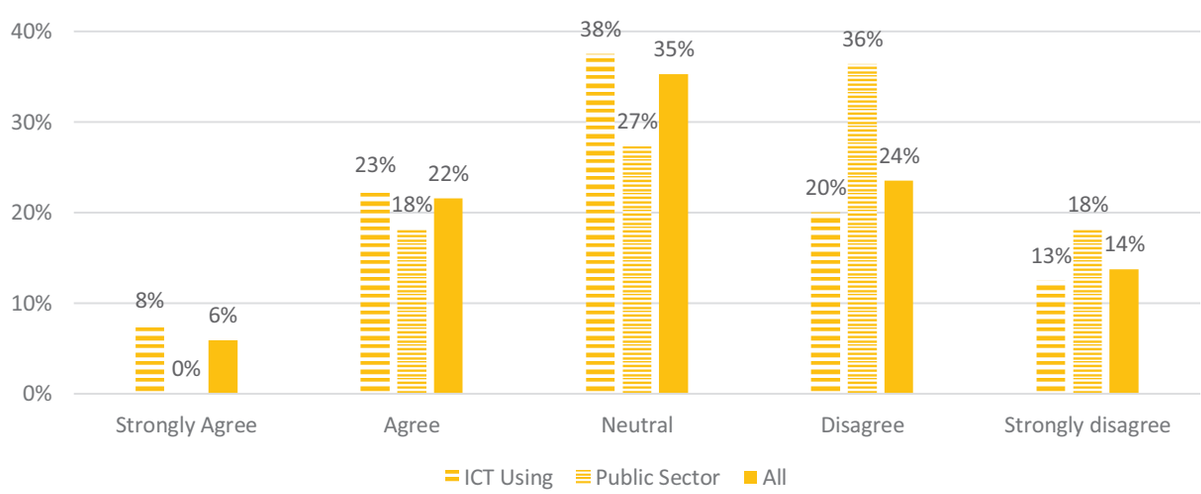


Figure 2.8: Having gender imbalance amongst our ICT employees can cause problems



A slim majority (51%) agreed that it is harder to recruit females, with another 33% staying neutral (See Figure 2.9). However, like respondents from the ICT Intensive and Telco groups, the statements concerning retention and career progression were mostly rejected, albeit with more neutral positions. A total of 24% agreed that it is harder to retain female employees in the medium to long term (45% neutral), 7% agree that female employee turnover tends to be higher than that of male counterparts (57% neutral), and 14% agree that male employees tend to progress faster in an ICT career (55% neutral) (See Figures 2.10, 2.11 and 2.12).

Figure 2.9: It is harder to recruit female talent for ICT jobs than males

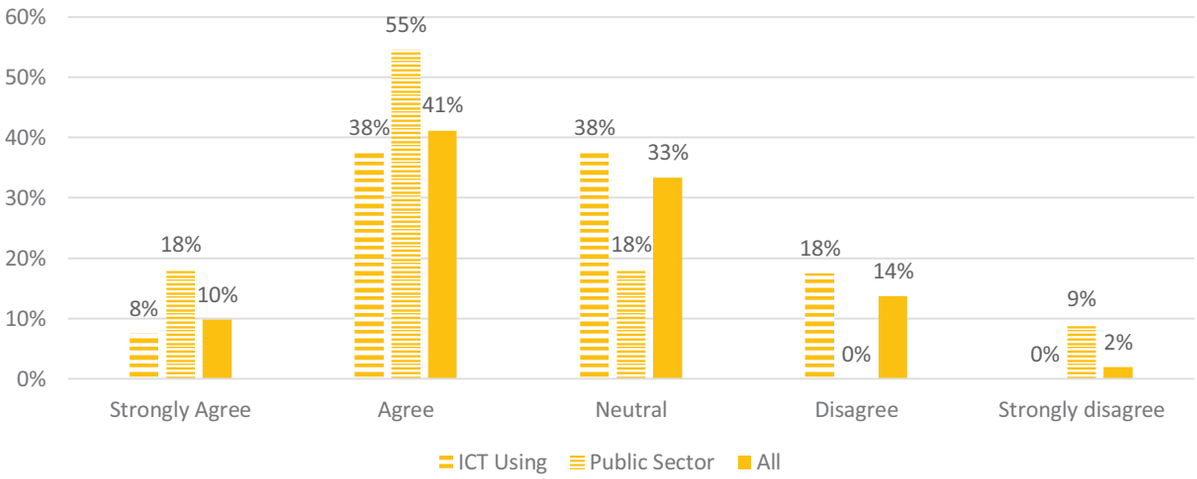


Figure 2.10: It is harder to retain female ICT employees in the medium to long term

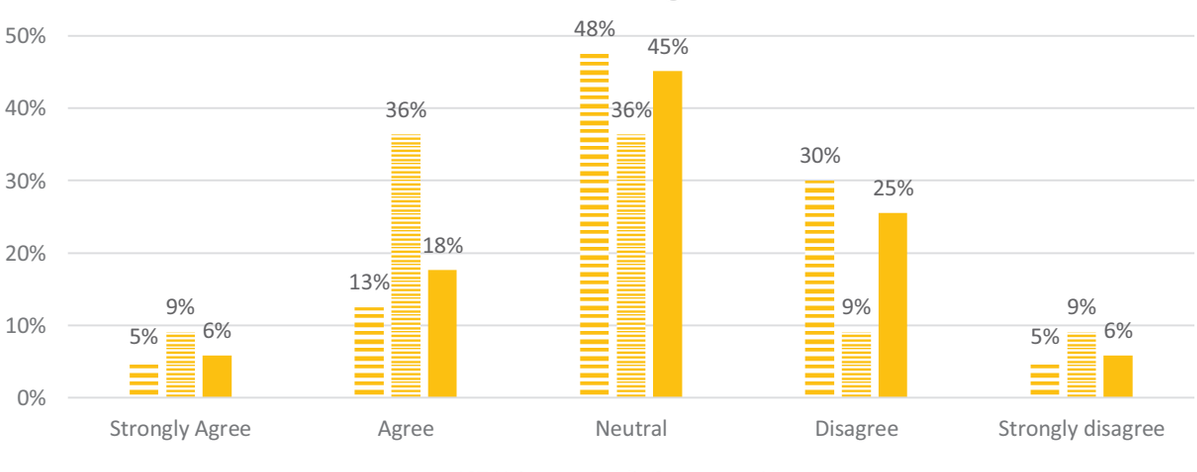


Figure 2.11: Female ICT employee turnover tends to be higher than that of male counterparts

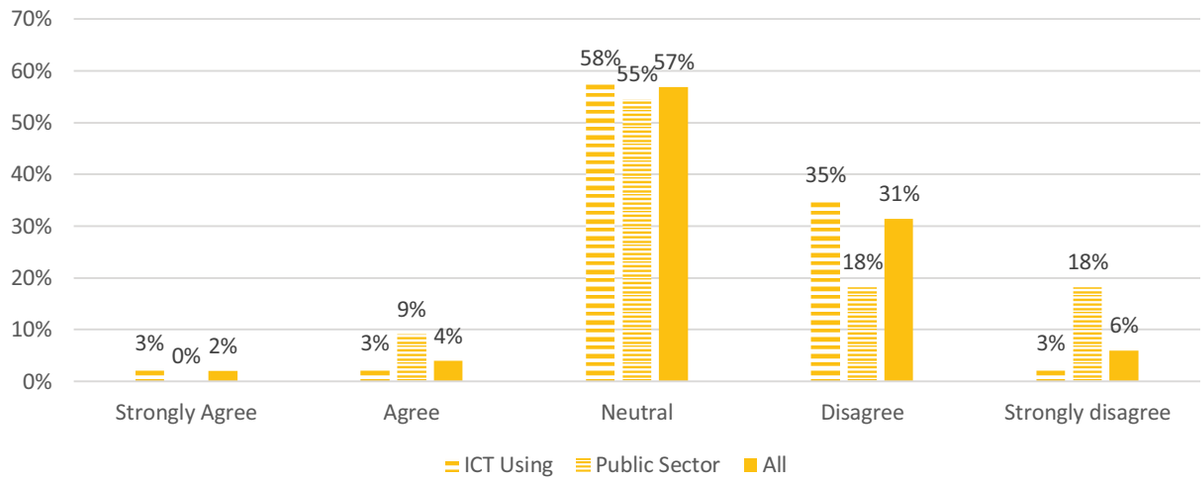
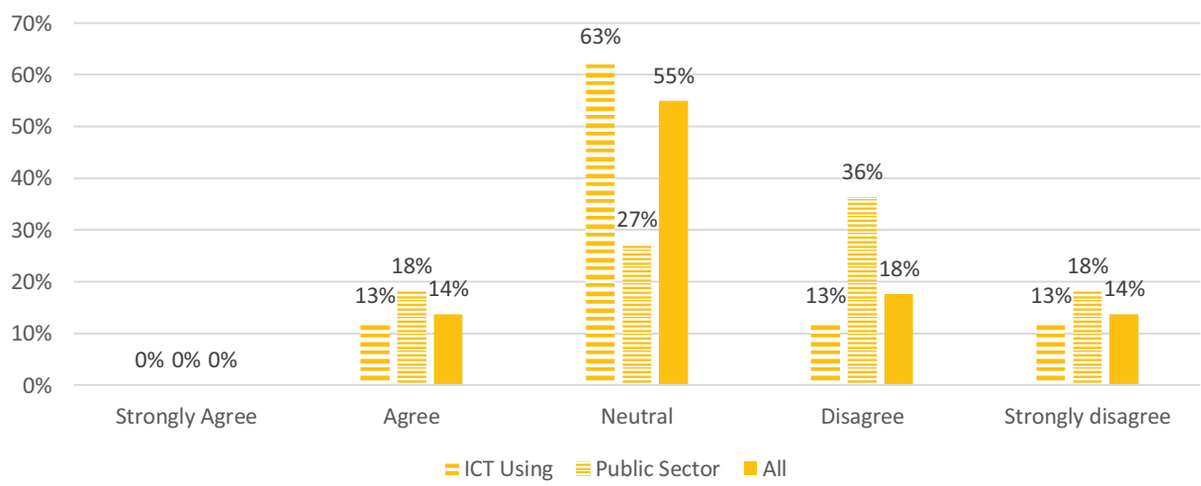
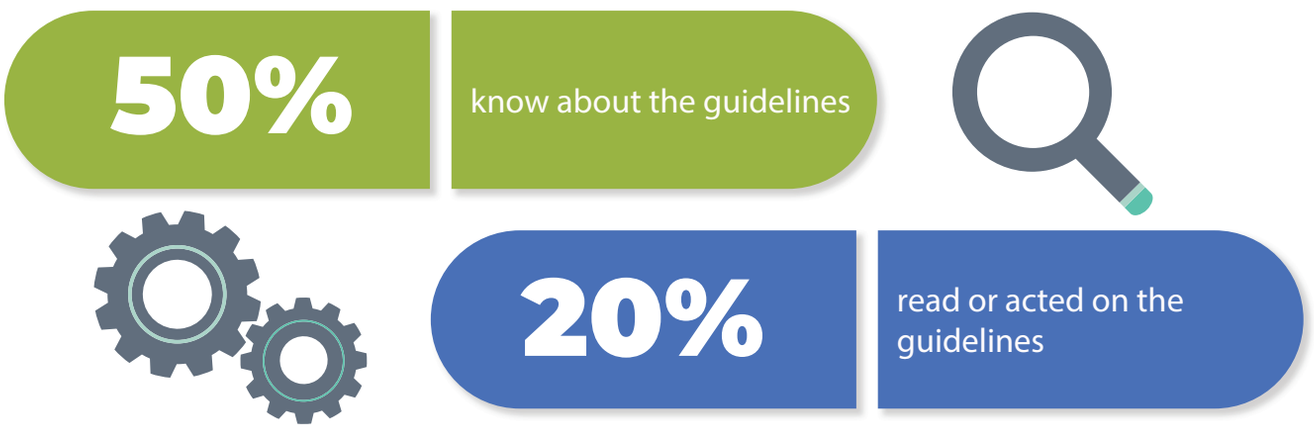


Figure 2.12: Male ICT employees tend to progress faster in an ICT career



Section 3: Awareness about the eSkills Malta Foundation Guidelines

The Guidelines to Increase and Retain Women in ICT is a 2018 publication of the eSkills Malta Foundation [1]. Its objectives are to help stakeholders increase women participation in the ICT sector.



In this section, the survey sought to gauge the awareness of respondent organisations (n=97) about this publication. Awareness of the guidelines emerged to be relatively high, with 50% of respondents knowing about the guidelines, and 20% having read or acted on them.

It is important to highlight that this data was captured from single individuals and the possibility of others from within the organisation having read them cannot be excluded, particularly if the respondent was not the HR manager

Figure 3.1 The eSkills Malta Foundation Guidelines to Increase and Retain Women in ICT

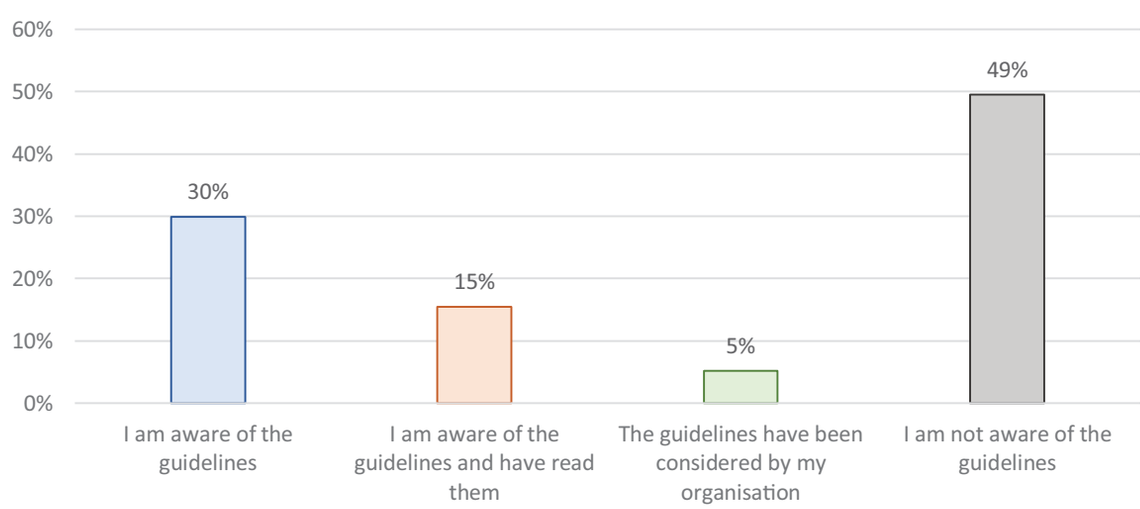
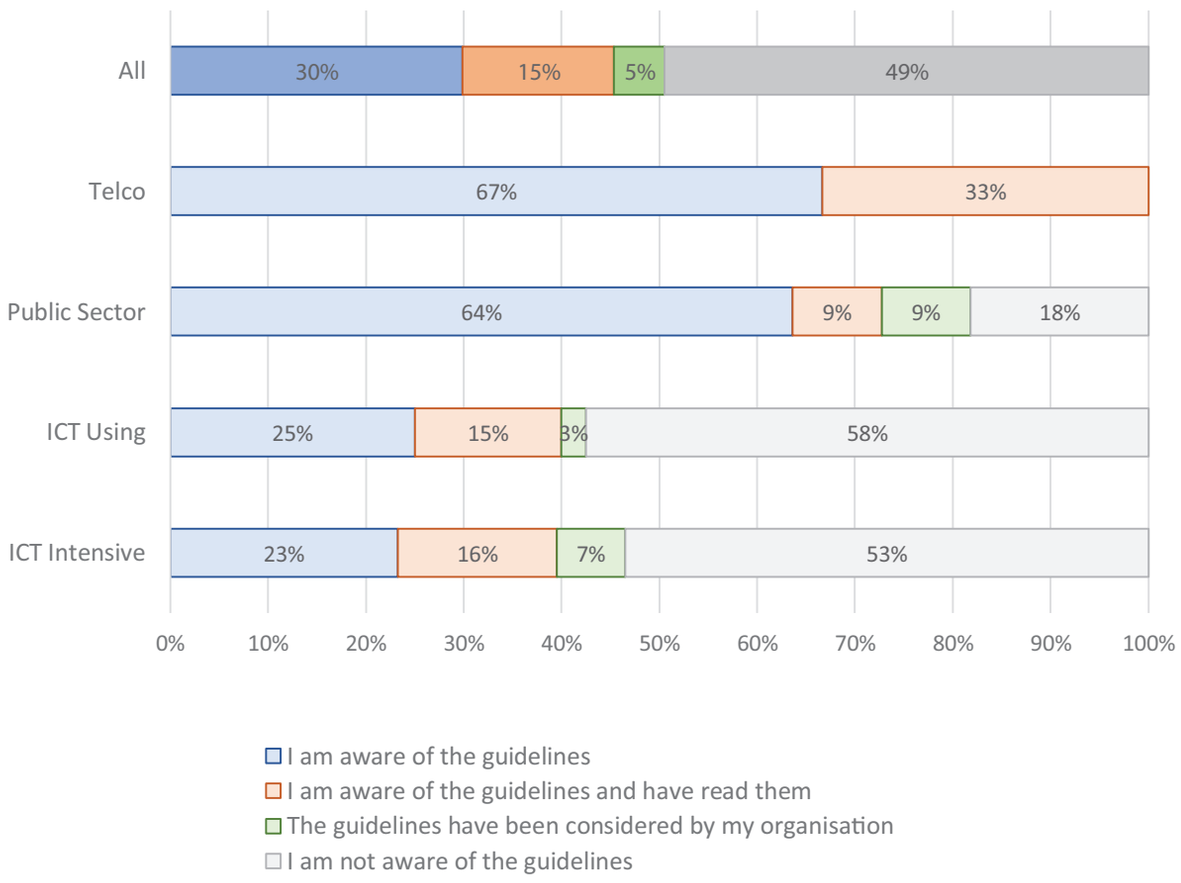


Figure 3.2 below outlines how the different organisation groups answered the question. The Public Sector and Telco groups emerged as having a good awareness of the document. Surprisingly, knowledge of the document amongst the ICT Intensive was only marginally higher than that of the ICT Using group.

Figure 3.2: Awareness and use of the eSkills Malta Foundation Guidelines to Increase and Retain Women in ICT (by category)



Section 4: Perceived barriers to gender balance

This section sought to expose how organisations perceive gender-balance in ICT/digital jobs and how they attract and retain female employees in their respective organisations. All responses were considered for this section (n=116).

Perceived barriers to gender balance

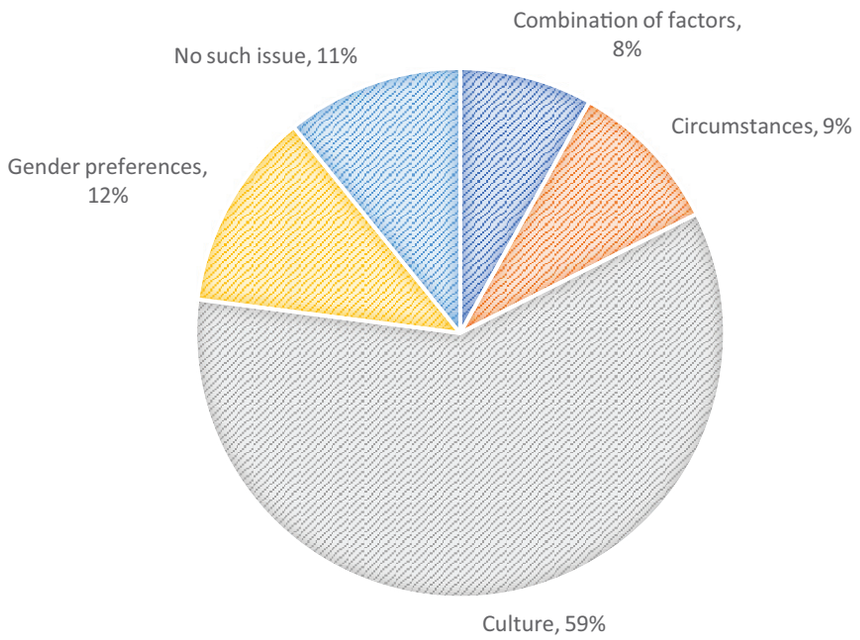
Respondents were invited to write in their own words what they think is keeping female talent away from ICT careers. Responses were analysed, coded and categorised.



59% claimed that culture is the biggest barrier to gender equality in ICT jobs

As outlined in Figure 4.1 below, culture emerged as the main barrier blocking females from pursuing an ICT career. This was followed by gender preferences and personal circumstances such as parenthood. A small but relevant group emerged as protesting the question's relevance seemingly objecting to gender distinction.

Figure4.1: What is keeping female talent away from ICT careers?



Culture

Most respondents (59%) claimed that culture is the biggest barrier to gender equality in ICT jobs. The *'Maltese mentality'* was blamed for creating this *'mainstream perception'* that ICT is *'traditionally [a] male-gendered role'*. There is a *'lack of family, social and educator encouragement'* and females are *'directed to other more feminine careers'*. Despite this, in general, respondents believe that the situation has improved considerably over the past 10 years.

Stereotypes were viewed by many as the root cause behind the gender gap. Respondents said that young people equate ICT jobs exclusively with software development in an office. Attributes used by respondents to describe how digital careers are perceived included: *'geeky', 'nerdy', 'unappealing', 'difficult', 'routine', 'sedentary', 'unattractive workplace' and 'man-only industry'*.

Respondents said that in-part, stereotypes are enforced by the lack of female role models. One respondent argued that 'When we think of big names in IT only males come to mind' and another added that *'while there are many great women in ICT, there aren't many women heroes who can be idolized and looked up to'*. A respondent claimed that *'most online YouTube tutorials on many ICT subjects such as programming are made by men'*. Some respondents argued that stereotyping happens in 'many areas of life' and the gender gap in digital jobs is a manifestation of a much wider issue.

The Maltese education system was seen by many as 'outdated' and fuelling a self-fulfilling prophecy, where males are encouraged, favoured and channelled into enrolling for ICT studies and aiming for the digital jobs, whilst girls are encouraged to seek other career paths that are *'empathetic and emotional'*. This, in turn, is seen as creating a vicious cycle where a male-dominated profession sets the norm for the others to come.

> ...tech jobs are not being adequately promoted as a suitable job career for **girls** or **young women**



Respondents believe that the gender gap needs to be addressed from very early, when girls and boys are very young. Respondents emphasized the need for teachers and career advisors to *'update their thinking'* and to stop conditioning students from pursuing *'careers traditionally associated with male/female cohorts'* whilst another argued that *'tech jobs are not being adequately promoted as a suitable job career for girls or young women'.* Furthermore, some said that schools are communicating wrong information about ICT careers and the opportunities such careers entail.

Many blamed secondary schools and tertiary education institutions for making computer studies and ICT uninteresting and uninspiring. Others associated the phenomena with the much wider failure to attract more females to STEM subjects. A female respondent flatly concluded – *'if I had been exposed to the options of a career in ICT as a student at school then I would have considered it'.*

Many respondents think that there is not enough general awareness about ICT careers and more awareness efforts need to take place. One stressed that many girls and parents in particular, *'are under the impression that ICT jobs are technical jobs or developers/programmers'.* Other respondents also blamed employers for gender bias based on ignorance and wrong assumptions.

Circumstances

Beyond culture and stereotypes, many said that becoming a parent can have great implications for females pursuing a digital career. Digital careers are considered *'quite demanding'* and the *'working hours are long'*. Several respondents highlighted that working could become inhibitive for mothers if there is a lack of flexibility in the workplace.

'The issue with gender imbalance is [the] lack of family-friendly measures rather than any form of discrimination against women. Male employees are often easier to retain in the medium to long term and progress quicker because they are often not the ones taking a career break to raise young children' claimed a respondent.

> The issue with gender imbalance is the lack of **family-friendly measures** rather than any form of discrimination against women



Gender preferences

A total of 12% of respondents think that in general, girls are not inclined to pursue ICT studies and digital careers. They feel that every person should have the *'freedom to pursue'* whichever career interests her or him, and that choice merits respect. One argued that despite women being academically *'as successful, if not more, than males',* they still choose different career paths, *'even when there are no gender barriers'.*

Many respondents suggested that females have different preferences, such as:

- *'prefer social policy related jobs in which they meet clients rather than back-office ICT work',*
- *'[are] disinterested in careers that focus more on logic and less on team communication',*
- *'are skilled in other areas/feel better applied to other areas',*
- *'by temperament and interest, are less likely to proceed in STEM fields',*
- *'would not work in the field due to the sedentary & generally 'routine' diversity of the job',*
- *'more inclined to the arts rather than to sciences', and*
- *'more geared towards more elevated skill jobs due to better performance in their studies'.*

Other respondents quoted research showing how countries with *'progressive gender equality'* policies found that despite eradicating much of the barriers, females still opted for humanities and vocational routes and away from STEM.

However, many of the respondents in the group qualified that not all females are the same, and nothing should come in the way of someone wishing to pursue a digital career. *'If their passion lies in ICT it will be as natural to them as it is for males to pursue' one claimed.*

No such issue

A small yet relevant group of respondents expressed disagreement with the question claiming that there is nothing nowadays stopping women from choosing to pursue a digital career.

One respondent argued:

'I would guess it is the same reason male talent is also not much interested in ICT in general. ICT careers are not being considered by young people at the desired rate, perhaps since they are perceived as requiring more work and effort both during study and also once the person is on the job. Long hours, on-going work pressure and lack of resources and these factors would apply to both males and females. The fact that the ICT sector is dominated by males also does not help but this to me is more an effect of the issue (lack of participation in general) rather than the actual cause'.

Some think the gap is only a temporary problem that will resolve itself as those in school/university join the workforce. One respondent from an iGaming company claimed that they fail to see the problem as they interview many females for their job openings.

Initiatives to attract and retain female employees

Respondents were asked to indicate if they took or were planning to take any initiatives to attract more female candidates to their ICT job openings. About a third of all respondents answered in the positive. Figure 4.2 highlights the disparities between organisation categories.

Results seem to indicate that organisations are not too keen to discriminate in favour of any gender. Many organisations feel that they need to be gender-neutral in their recruitment to ensure that they hire the best talent based on skills and experience. Discrimination in favour of any gender is generally considered counterproductive. As a result, most initiatives constitute of family-friendly measures, and very soft outreach measures mostly to encourage interest.

The disparity between the different sector categorisations needs further attention since it appears to be substantial. One can attribute the more aggressive stance of the ICT Intensive sector to the general shortage in staff and therefore, the additional efforts they are keen to undergo to discover and secure new resources. For the Public Sector, on the other hand, any form of discrimination is probably considered to counter their non-discriminatory recruitment policies.

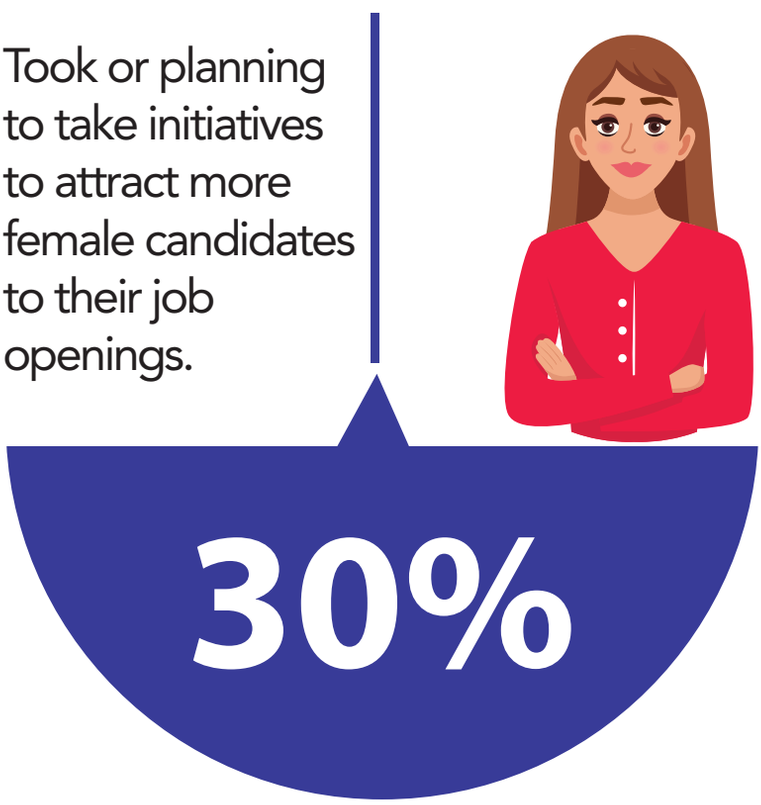


Figure 4.2: Did you take, or are you planning to take, any specific initiatives to attract more female candidates to apply for your ICT job openings?

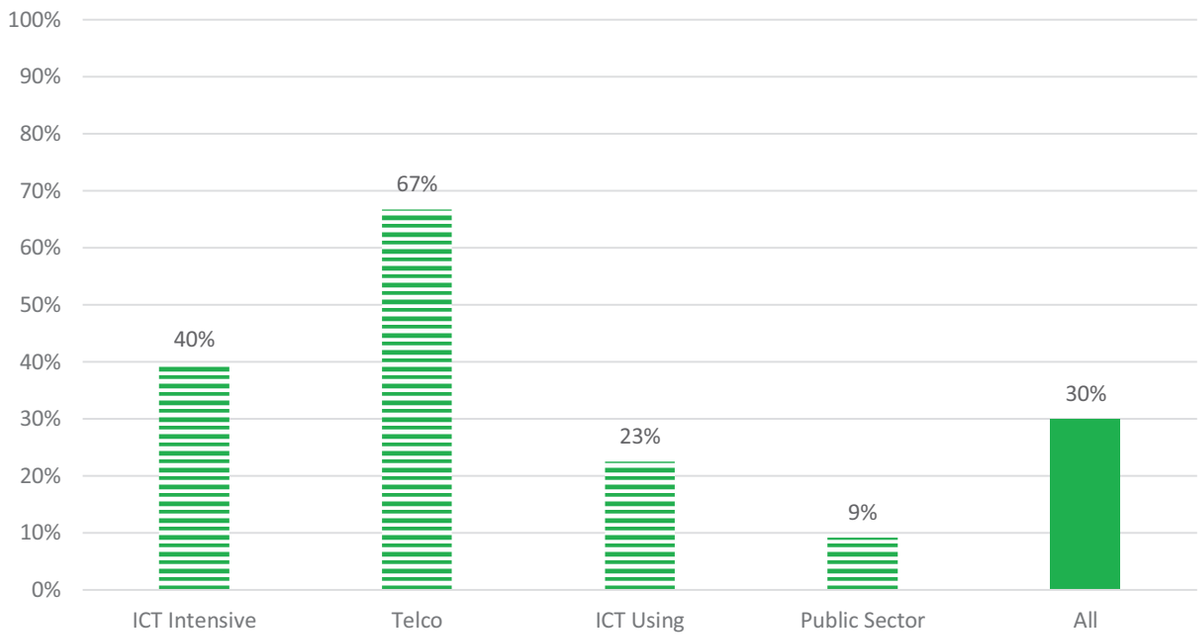
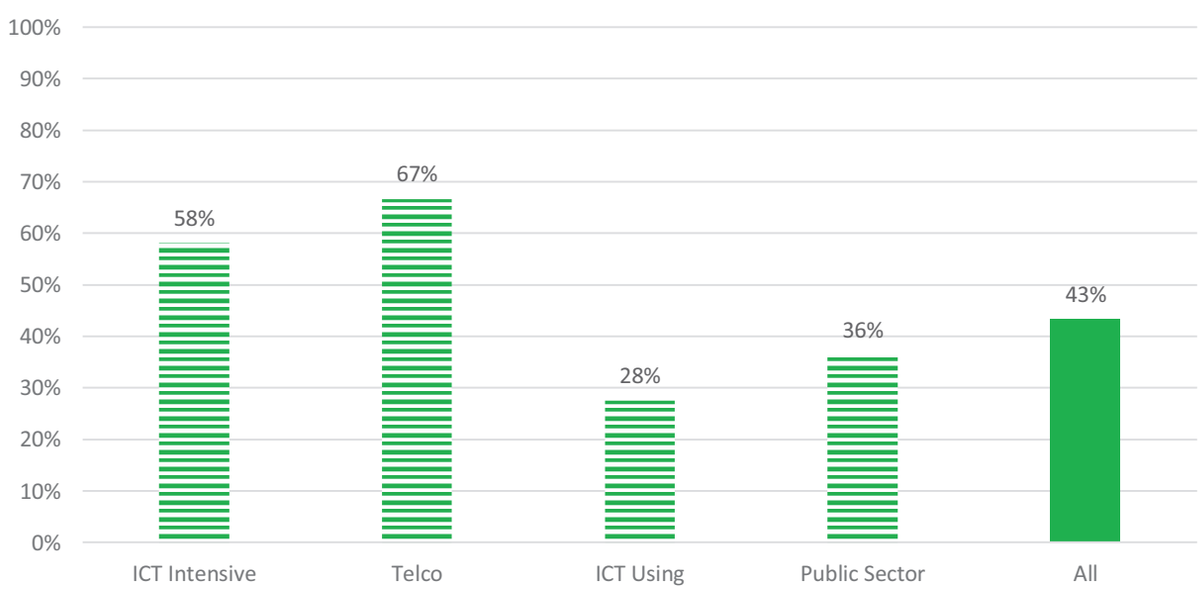


Figure 4.3: Did you take, or are you planning to take, any specific initiatives to help female employees working in ICT to remain in your organisation and progress in their career?



Tables 4.1 and 4.2 below summarise the initiatives respondent organisations are embarking on to attract female employees. Table 4.1 lists all indicated internal policies that organisations have implemented to make their job openings more attractive to female employees. Many are family-friendly measures that make it easier for parents, irrespective of gender, to be able to remain in employment whilst raising young kids. Some others are intended to make a male-dominated work environment more welcoming to female employees. This is achieved by ensuring inclusion both at operational and business levels, as well as social belonging.

Table 4.1: Policy initiatives

Family-friendly measures	• flexible working hours, remote working and reduced hours (x25) • extra leave for parents • nursing facilities
Anti-discrimination measures	• Policy for an inclusive and non-discriminatory work environment, and equal opportunities to apply for promotions, training and throughout recruitment (x5)
Gender balanced environment	• Ensure women presence and ideas in all initiatives
Offsetting gender imbalance	• Recruited an all-female team for a new function • Policy to try recruit more women for upcoming roles
Retention	• End of year bonus related to years within the organisation • An internal campaign encouraging female employees to pursue further training and personal development • Career planning and guidance (x3) • Mentoring and coaching (x4) • Training (x7) • Management development • Incentives for self-development • Job mobility between departments
Social events	• Cosmetics Friday evening party held every quarter

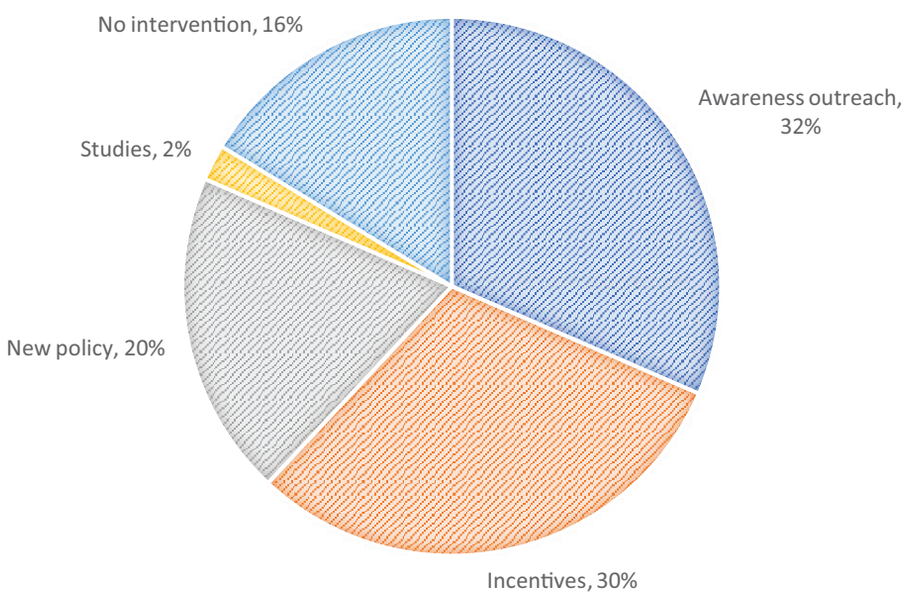
Table 4.2: Outreach Initiatives

Recruitment adverts	• Using females in recruitment adverts (x3) • Recruitment adverts emphasize reduced/flexible hours and teleworking • Publicity videos show female employees • Calls for job openings specifically encourage female candidates to apply
Education outreach	• Participate in career fairs specifically targeting females (x2) • Collaborating in initiatives to encourage women to take ICT careers (x2) • Writing articles encouraging females to join ICT • Discussions about female participation in Digital jobs on social media and other platforms • Advice to students

Section 5: Government intervention

In this section, respondents (n=116) were asked to identify how the government can support an increase in female participation in the ICT job market. Responses were coded and categorised in awareness outreach, incentives, new policy, and studies. A small but relevant group suggested that the government should keep its intervention to a minimum.

Figure 5.1: How can the Government support an increase in female participation in the ICT job market?



Awareness Outreach

Many respondents believe that the government has a central role to play to challenge the general perceptions that digital jobs are exclusive to males. Awareness and education need to form part of formal education and beyond, and target children, teens, parents, employers and educators.

Respondents stressed the importance to present ICT/digital careers as interesting, enjoyable, rewarding and 'cool'. Girls must get exposure to the diverse career paths from early years. Awareness initiatives should actively combat misconceptions that digital jobs are 'sedentary' and exclusively technical – programming related. Digital careers, on the other hand, must be presented as a multitude of career paths that appeal to different people with different abilities and interests.

Stereotypes were once again identified as the root cause behind why many females shun digital jobs. A government promotion arm was recommended with the specific aim of combating stereotypes and promote role models. Respondents suggested that the government should launch strong education initiatives across all levels of education, but special focus needs to be placed on secondary level schooling and career fairs.

Respondents suggested that young people need to see both male and females in digital job positions. A message that girls can do well in ICT careers needs to be communicated. One respondent recommended celebrating local and foreign female CEOs who made it in the IT industry. Another suggested giving the limelight to female engineers so they can share their experiences. One suggested that girls need to be taught that the *'future is in digital'* and they risk missing out on what will matter most in the future.

Respondents also highlighted the importance for the government to raise awareness amongst employers. One suggested that senior management and directors need a better appreciation of the benefits of diversity and flexibility in the workplace.

Incentives

Many respondents highlighted the importance for the government to continue to improve on its *'family-friendly measures'*. Some suggest that the government needs *'to rethink the maternity leave entitlement completely'.* The government needs to offer more initiatives for women such as extended maternity leave, reduced hours option for all working mothers and sick leave for caring for children.

Some respondents suggested that fathers should be encouraged and incentivised to take more of the burdens in the early days of maternity such that *'both genders would be seen as carrying the same risk by the employer'*. Early years are hard, and grandparent support cannot be assumed as childcare service might not be flexible enough. The government can also help more by offering afterschool childminding options at the ages when kids are no longer eligible for free childcare. Another recommendation suggests special financial incentives for female employees that avail of reduced hours while caring for young children. A respondent went further by suggesting free home help where very young children are involved.

From an employee perspective, one suggested that the government should *'pay maternity leave via taxes'* to reduce the burden on employees. Some recommended that government incentivises employers so they, in turn, offer family-friendly measures such as flexitime, teleworking and childcare facilities. One recommended that more childcare centres are set up in areas with a higher concentration of digital employment.

The government needs also to incentivise the individual pursuing a digital career path. This can be achieved by providing better stipends, with some proposing higher stipends for female candidates. Incentives should also help people to take courses part-time making them more accessible to everyone, including females. Another respondent suggested funding training programmes that are designed to attract female candidates.

Financial incentives might also be offered to current ICT employees for *'education, motivation and managerial training'.*

Respondents said that employers could be assisted in attracting female employees through subsidy schemes when they offer specific job roles and training. Special grants and financial incentives can be restricted to companies run by female CEOs. Recruitment agencies can be incentivised to recruit female ICT employees.

New Policies

Respondents mostly focused on a need to renew the education system in order to make *'digital'* more interesting to girls and women.

Many respondents said that the government needs to rethink schooling and the way it deals with gender. Several respondents felt that schools are implicitly channelling females towards specific career paths. The exclusive focus on the technical skills, ECDL was mentioned, limits young people's ability to fully understand and appreciate the opportunities that the subject can offer. One respondent said that ICT should get the same exposure as *'art and science'* from a very young age. Another suggested that schools need *'greater hands-on experience'* from very young ages. The need to train teachers was also highlighted. More *'practical, vocational courses in ICT'* that depart from the typical *'academic stream'* in tertiary education was also recommended.

Some respondents saw the gender gap as part of the wider lack of interest in STEM, and if the government gets more females to pursue STEM subjects, then the gap will narrow.

Some stressed the importance MCAST and University can play to attract females to their courses. At tertiary level, students should also be aided through encouragement and mentorship especially in the early days of career decision making. Tertiary education entities can also take an active role by developing programmes, including lifelong learning opportunities, that appeal to wider audiences. The flexibility that allows for home training was mentioned as one way to attract older women.

A respondent also suggested that ICT teachers' salaries should be at par with industry to attract top talent to teaching to ensure that they can effectively teach, motivate and inspire their students.

Beyond the education sector, being the biggest employer, several respondents stated that they expect the government to lead by example by introducing more flexibility in the Public Sector, particularly in working hours and teleworking practices.

Studies

A section of respondents seems to think that the government's gender balance policy is not being driven by a proper understanding of the situation, and its ultimate purpose is not clear. Policy needs to be informed and backed by further research. An iGaming respondent questioned the motivation behind seeking gender balance arguing: *'If it's to reach some arbitrary number then it's definitely doing it for the wrong reasons and the outcome will be poor'.*

Others suggested that there should be more public consultations to understand the 'root cause'. Policy also needs to respect individual choices and needs. A call for more consultation was encouraged especially by reaching out to women's movements.

No intervention

A small but significant section of respondents believes that government intervention should be kept to a minimum as it risks turning counterproductive and stir away females from digital courses and career paths. As a respondent from an education institution put it – *'do females want to participate in ICT?* It could be the women's choice to go to other areas'. Some seem to concede that females and males are just different with one saying that *'males are usually more attracted by the electronics/ICT'* and that an employee has to 'love the job'.

Some respondents went outright against forms of positive discrimination to bridge the gender gap. They think that the *'system'* is already offering the *'right tools and means'* for equal opportunity. Such position was also assumed from within the Public Sector itself, as one civil servant bluntly said 'Government supports all those who are interested in working in ICT no matter whether these are females or males'.

A good number just reject the idea that the gender gap is a problem on which the government needs to intervene. One suggested that the government's role should be exclusively limited to ensuring equal opportunities. Others said that enough progress has been made and *'significant female participation at the most senior levels'* is already in place.

Some simply see the issue as petty and irrelevant arguing that they *'have bigger problems'* and it is already *'hard enough to get decent people who stay for more than one year before hopping to the next job'.*

DISCUSSION



This study has found that in ICT Intensive organisations (ICT Sector per se, iGaming, Video Games, and MITA), there were twice as many male employees as there were females. Women were less likely to fill the more senior or technical positions and only one in every ten CEOs was a woman. Whilst relative gender balance was found in administration, support, marketing and sales roles, only one in five of the technical digital jobs were effectively taken by women.

For the ICT Using and Public Sector groups, the gender gap in digital jobs was found to be wider. The context of these organisations tends to be different as digital jobs tend to be assigned to a distinct, comparatively small IT department. It is generally accepted and expected that such a department is a male-only space. In fact, the study only found one woman per ten men engaged in digital jobs within these groups.

Findings indicate that the gender gap amongst Digital employees of ICT Intensive organisations was narrower than that found amongst the ICT Using and Public Sector groups. There are several plausible reasons behind this, including:

1. The shortage of digital talent requires organisations to be more aggressive in reaching out and retaining digital talent. Discrimination against women in recruitment would severely jeopardise their overall ability to operate and compete.

2. In ICT intensive industries, digital jobs are not concentrated in specific departments. Digital workers have more opportunity to interact and work with colleagues from different backgrounds and roles. Female employees might feel more welcome in a more diverse work environment.

3. Many iGaming companies have Scandinavian founders, and the staff tends to be multinational. A progressive mindset towards gender and inclusion might help create a more welcoming environment for women employees.

In general, respondents from all sectors acknowledge that their organisation would benefit if more women formed part of their digital workforce. However, very few consider the gender gap to be a major issue for the organisation.

Most respondents, also recruiters in their respective organisations, acknowledge that it is hard to find women candidates for their ICT jobs openings. The general sentiment is that despite their efforts not to discriminate between gender, they just receive only a limited number of applications from women.

According to respondents, the two main factors keeping women away from ICT/digital jobs are:

1. **Stereotypes** in the Maltese culture and an education system that channels girls away from studying ICT and pursuing digital careers.
2. Females and males have different **gender preferences** and should have the freedom to pursue different career paths.

Stereotypes and gender preferences, despite sounding contradictory, were not seen by respondents as mutually exclusive. Some respondents, in fact, did combine both factors in their response indicating that the gender imbalance is a product of both – whilst at the root, there might be gender preferences, this can be artificially augmented, generalised and imposed on society.

Respondents think that the best way to break stereotypes is through awareness and education. From very early, young people need exposure to different digital careers to properly understand what it entails and to weed out misconceptions. Respondents highlighted the need for an updated education system to present ICT as a more relevant and appealing subject.

As regards to gender preferences, many respondents said that the government should not interfere in people's freedom to choose and pursue one career over another. For some, gender preferences towards the study and career paths should not be suppressed by government intervention.

Most respondents flatly disagreed that women are harder to retain, that women progress slower in their careers or that women's turnover rates are higher. It is important to highlight that this is merely the respondent perceptions, and actual data might yield a completely different picture. However, this shows that most respondents are not consciously conditioned to expect different levels of retention and progression between male and female employees.

Therefore, whilst respondents attributed stereotypes and gender preferences to the low number of female candidates for digital jobs, they attributed completely different causes for female employee retention and career progression, namely parental commitments. On the other hand, parental commitments were not associated with the reasons why females are not pursuing digital careers.

Generally, respondents agreed that flexibility and support measures are needed to help a parent, particularly mothers, remain in employment and pursue career progression.

Whilst for combating stereotypes respondents expected government to take the lead through education policy and awareness initiatives, when it came to the retention and career progression, respondents expected organisations to take the lead and government to support. As a matter of fact, respondents showed that their respective organisations are already very active in ensuring that parent employees are assisted in the best way possible to remain in employment. This is understandable since, for many such organisations, the human resource is the most important and expensive asset within their organisation.

Policy direction



Building on respondent feedback and insight generated, a set of guiding principles are proposed for future government policy and interventions vis-à-vis gender balance in ICT jobs.

1. Policy needs to encourage more girls and women to consider studying ICT and to pursue and progress in digital careers. More women in digital jobs can yield economic benefits, namely a larger and more diverse talent pool, as well as social benefits brought about by increased mobility and better salaries. Public intervention is expected on three fronts:

    - **Awareness:** Raise awareness about digital careers and fight all stereotypes.
    - **Education:** Improve education system at all levels and rethink ICT programmes to make ICT more accessible and attractive.
    - **Family-friendly measures:** Continue to develop further support measures targeted at both parents and employers.

2. Policy should indeed seek to address gender discrimination. However, the ultimate objective should not be construed as achieving gender-balance as an end in itself. Policy must be backed by clear objectives and a solid understanding of social and economic needs. Imposing hurried gender-balance measures can create artificial distortions in the labour market that can harm the economy, industry and employees.

3. Despite the low numbers of female recruits, this study encountered women in all technical and senior levels including CTO and CEO positions. Such observation shows that the gender gap is likely the result of propensity, and not capacity. Data does not show that females do worse in digital careers, yet this is a common assumption. More insight is needed to understand why so many girls and women are staying away from studying ICT and pursuing a digital career.

4. The gender gap is caused by many complex factors that include culture, the education system, gender preferences and parenthood. To understand the cause, one must explore all the factors at play. The low take-up of STEM subjects, how stereotypes shape career aspirations, the entrepreneurial mindset of youths, the gender pay-gap are all relevant dimensions that have a much wider socio-economic relevance beyond the specific topic in focus. In terms of policy, the gender gap in digital jobs cannot be understood and addressed in isolation, or exclusively from a gender perspective. Rather, this must feature in wider holistic policies that deal with economic development, education and social cohesion.

Next steps



Building on the above policy guiding principles and the feedback from respondents, and to further the insight about the gender-gap in digital jobs, a series of initiatives are recommended for implementation by the stakeholders in the subject.

Definitions

The lack of clear definitions was a challenge for this study. It is hard to debate, communicate, measure and analyse organisation activity without a clear and consistent understanding of what constitutes the digital sector and what a digital job entails. Agreed common definitions should be adopted by all stakeholders to make such studies more accurate and effective. The clarity in definitions will allow future studies to produce insight that is meaningful, comparable and repeatable.

The following definitions should be developed and maintained unless a common definition would have been already defined by the European Commission.

1. **Digital Job** – What constitutes a digital job and how do you differentiate from other jobs that involve the use of technology. A clear definition will enable stakeholders to objectively:

    - Identify and quantify the size of the digital jobs market,
    - Measure the digital talent pool and gaps within,
    - Frame the demand-supply for educational programmes leading to digital careers,
    - Extrapolate the gender-gap in the sector, and
    - Present a coherent message to students, employees and employers about what digital careers entail.

    This study has adopted the definition of Eurostat for ICT practitioner skills and e-Business skills.

2. **Digital sector** - The ICT Sector, as defined by NACE, is very restrictive and represents a very narrow segment of ICT operations. Yet, this term is often used to mean the inclusion of other organisation categories such as iGaming and FinTech. New terminology with clear definitions is needed to ensure correctness. A sharp definition of what constitutes the digital sector will enable stakeholders to:

- Measure the economic contribution this group contributes to the economy
- Observe trends in the talent pool
- Monitor growth and shifts
- Gain a holistic view of the Maltese digital ecosystem

Where possible, standard terminology used by the European Commission (Eurostat) or the OECD should be adopted. However, local national definitions should be adopted if it is otherwise required by the local policy and economic context.

Understanding the gender and digital skills

This study has explored the gender gap in digital jobs and has identified a few trends that merit attention. This study has provided a much-needed initial understanding. As a way forward, deeper studies into these trends should be carried out to expose and understand the root causes. It is recommended that in the near future further studies, some of which are mentioned below, should be considered by the respective subject stakeholders, in order to continue to inform public policy and other stakeholders about the gender-gap and its impact.

1. Add-on to NSO's annual survey – 'ICT usage and e-Commerce in Enterprises'

This survey, that also feeds the Eurostat database, covers Maltese enterprises employing 10 or more employees from selected economic sectors. It captures general data about ICT usage in enterprises. A census approach is used and the response rate in 2019 was 61%. This instrument can be extended to include additional questions, namely:

- Number of employees in digital jobs
- Gender ratio of employees in digital jobs

This data will enable key subject stakeholders, like the eSkills Malta Foundation, to monitor over time the number of digital employees by NACE sector and organisation size, together with gender ratios.

2. Digital careers attractiveness survey (students)

An annual survey, implemented in conjunction with the Education sector, measuring students' perceptions and attitudes towards digital careers. The survey should target 12 to 13-year olds, the year in which students will decide which optional specialisation subjects to pursue, and 15 to 16-year olds cohorts, the years when students sit for their matriculation exams and decide on their career future. The survey will capture:

- interest to pursue digital career
- interest in choosing to pursue computing and ICT as a study options/tertiary level
- knowledge of and perceptions about ICT careers

Cost and effort can be contained substantially if such a survey would be administered online through schools. Repeating the study annually would provide a longitudinal overview and trends evaluating awareness initiative effectiveness and predicting future labour supply.

3. Digital careers attractiveness survey (educators)

A bi-annual survey, implemented in conjunction with the Education sector, exploring the attitudes and perceptions of teachers and lecturers about current student cohorts studying for digital careers. The study would target (i) PSD, career guidance, ICT and Computing teachers in all Maltese secondary schools; as well as (ii) lecturers involved in the teaching of core components of programmes leading to digital careers at MCAST, University of Malta and other licensed tertiary education institutions. Such a survey should explore the educators' perception towards:

- The level of student's abilities and attitudes, with perceived trends over time
- The level or preparedness to teach in current programmes
- Educational/academic trends and their suitability for economic/societal needs
- Gender differences amongst students

4. Employee focus groups on gender balance in ICT

Complementing the Women in ICT focus group led by the eSkills Malta Foundation, a series of other focus groups should be held with women and men in digital jobs to explore how employees feel about the gender-gap within their organisations, if/how it impacts their performance, and what organisational policies have helped achieve better inclusion.

5. Employer perceptions on gender balance in ICT

A series of interviews or focus groups with HR managers and CTOs to explore employer's perceptions about the gender-gap amongst digital employees, if/how it impacts the organisation and any initiatives that are being pursued.

General awareness

Findings from this study suggest that the government must be very careful in intervening to address the digital gap in ICT careers. An ill-thought awareness campaign with one gender in focus can yield the undesirable effect of enforcing stereotypes rather than achieving a better balance.

As a guiding principle, in reaching out to prospective digital employees, females and males, the message must, as much as possible, be devoid of stereotypes. Awareness initiatives must feature and target males and females indiscriminately. The sustained and active participation of female role models in campaigns is considered as an effective, yet implicit, means of challenging stereotypes and any unconscious biases, and of helping females feel included in the industry.

Based on respondent feedback, this study, therefore, recommends that every awareness initiative undertaken or supported by the government must be designed to specifically also appeal to a female audience. The respective subject stakeholders could propose policy guidelines in this regard.

When reaching out to wider stakeholder groups, therefore educators, career advisor, employers, constituted bodies, relevant NGOs and policymakers, it is recommended that government awareness initiatives are concerted under one national initiative that builds on the Foundation's *Guidelines to Increase and Retain Women in ICT.*

Platform for awareness and experience sharing



The Foundation's *Guidelines to Increase and Retain Women in ICT*, fall in line with the respondent's recommendations and were generally well-received. This initiative should be taken a step further by the stakeholders involved, transforming it into a living platform for awareness, dialogue, and best practice dissemination.

Having the initiative led and maintained by the private sector with the Foundation taking a supporting role but maintaining oversight would be desirable.

The platform could entail:

- An online presence
- An annual peer-learning and experience sharing workshop
- A running media campaign
- Public policy thinktank on better family-friendly support measures

The Analysis of the Gender Gap in the Digital Sector in Malta has taken a local snapshot of the gender balance in the digital sector. Certainly, this has provided certain insights that must be pondered upon before the key subject stakeholders take further action. Nevertheless, this should not lead to procrastination but rather to having all stakeholders try harder in implementing adequate actions to address today's gender imbalance in digital jobs and the digital sector.

REFERENCES

[1] eSkills Malta Foundation, "Guidelines to Increase and Retain Women in ICT," Valletta, 2018.

[2] European Commission, "Women in the Digital Age," Brussels, 2018.

[3] McKinsey & Company, "Delivering through Diversity," 2018. [Online]. Available: https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/Organization/Our%20Insights/Delivering%20through%20diversity/Delivering-through-diversity_full-report.ashx. [Accessed 24 February 2020].

[4] European Commission, "The Digital Economy and Society Index (DESI)," European Commission, 2019. [Online]. Available: https://ec.europa.eu/digital-single-market/en/desi.

[5] European Commission, "Women in Digital Scoreboard 2019 - Malta," European Commission, Brussels, 2019.

[6] E. I. f. G. Equality, "Equality, European Institute for Gender," [Online]. Available: https://eige.europa.eu/gender-statistics/dgs/indicator/wmidm_bus_bus__wmid_comp_compex. [Accessed February 14 2020].

[7] European Commission DG Connect, "Declaration - Commitment on women in digital," 2019. [Online]. Available: https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=58562. [Accessed 2020].

[8] Eurostat, "Eurostat ICT sector (isoc_se)," European Commission, 2017. [Online]. Available: https://ec.europa.eu/eurostat/cache/metadata/en/isoc_se_esms.htm. [Accessed 11 February 2020].

[9] Malta Gaming Authority, "Skills Gaps Affecting the Online Gaming Industry In Malta An Analysis Of Survey Results," Malta Gaming Authority, Valletta, 2020.

[10] OECD, "OECD Guide to Measuring the Information Society 2011," 2011.

[11] "Eurostat," European Commission, [Online]. Available: https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:E-skills. [Accessed 19 February 2020].

ANNEX 1: SURVEY EMAIL INVITATION

We need your opinion on the Gender Gap in the Digital Sector

To whom it may concern,

The current state of women in the digital world is far from balanced, and depending on the country and company, across Europe there is only 1 woman employed in ICT to 5 or 7 men. In Malta, however, there have been as yet insufficiently detailed statistics and qualitative data collated from the Maltese Digital Sector on the actual rates of women employment, on perceptions, challenges and initiatives in this sense.

The eSkills Malta Foundation who is continuously working on different initiatives to improve this situation, is currently implementing a project aimed to study the gender balance in the Digital sector in Malta.

Ascend Consulting has been trusted to conduct this study and we need your opinion to ensure that we can perform an in-depth analysis of the overall Maltese digital sector. Thus, if your organisation is active in the ICT sector per se, or otherwise is making significant use of ICT in its operations and has in-house ICT dedicated staff (no matter the specific economic sector it is active in, including in the public sector), your honest feedback in this questionnaire is much appreciated!

Fill in the Gender Gap Questionnaire Now

The questionnaire will take no longer than 10-15 minutes of your time, and can be filled-in anonymously. Unless specifically agreed otherwise by respondent organisations, only aggregated and anonymized information will be included in a final report that will summarize the findings of this survey.

If you have received this email and you feel you do not have the necessary information to fulfil this questionnaire, we kindly ask you to forward this to your Human Resources Department and/or the IT Department of your organisation.

Should you have any questions about this survey, please address them to anamaria@ascendconsulting.eu

Thank you,
Ascend Consulting team

Forward this email to a colleague or friend

ANNEX 2: ONLINE SURVEY

Analysis of the Gender Gap in the Digital Sector

The current state of women in the digital world is far from balanced, and depending on the country and company, across Europe there is only 1 woman employed in ICT to 5 or 7 men. In Malta, however, there have been as yet insufficiently detailed statistics and qualitative data collated from the Maltese Digital Sector on the actual rates of women employment, on perceptions, challenges and initiatives in this sense.

If you feel you do not have the necessary information to fulfil this questionnaire, please forward it to your Human Resources Department and/or the IT Department of your organisation

What best describes the sector you operate in? *

How many employees work in your organisation? *

- ◯ Less than 10
- ◯ Less than 50
- ◯ Less than 250
- ◯ More than 250

Organisation

All the data collected will be anonymised. The organisation name is required to ensure we do not collect duplicate data from the same organisation.

In your organisation, what percentage of employees in below roles/functions are female?

- ◯ Data not available
- ◯ Prefer not to say

- ◯ Data not available
- ◯ Prefer not to say

- ◯ Data not available
- ◯ Prefer not to say

- ◯ Data not available
- ◯ Prefer not to say

- ◯ Data not available
- ◯ Prefer not to say

- ◯ Data not available
- ◯ Prefer not to say

What gender is your organisation's CEO? *

- ◯ Male
- ◯ Female
- ◯ Other
- ◯ Prefer not to say

What gender is your organisation's CTO (or equivalent)? *

- ◯ Male
- ◯ Female
- ◯ Other
- ◯ Prefer not to say

Do you agree or disagree with these statements?

	Strongly disagree	Disagree	Neither Disagree / Agree	Agree	Strongly Agree
We need more female employees in our organisation	○	○	○	○	○
Gender imbalance is a problem in our organisation	○	○	○	○	○
Recruiting female employees for ICT jobs is harder than recruiting males	○	○	○	○	○
Male employees tend to progress faster in an ICT career	○	○	○	○	○
Female employee turnover tends to be higher than that of male counterparts	○	○	○	○	○
It is harder to retain female employees in the medium to long term	○	○	○	○	○

How many full-time ICT employees (or equivalent), work in your organisation? ICT employees include all staff in your IT department and/or staff that work exclusively on software development or ICT systems. *

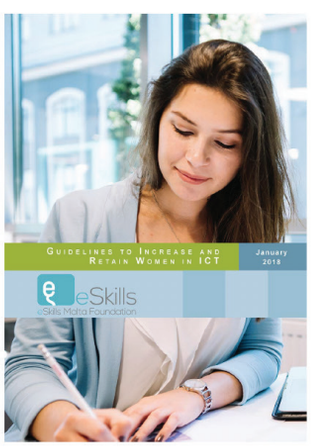
○ Data not available
○ Prefer not to say

What is the gender of the most senior ICT employee? *

○ Male
○ Female
○ Other
○ Prefer not to say

Do you agree or disagree with these statements?

	Strongly disagree	Disagree	Neither Disagree / Agree	Agree	Strongly Agree
It is harder to recruit female talent for ICT jobs than males	○	○	○	○	○
We need more female employees amongst our ICT employees	○	○	○	○	○
Having gender imbalance amongst our ICT employees can cause problems	○	○	○	○	○
Male ICT employees tend to progress faster in an ICT career	○	○	○	○	○
Female ICT employee turnover tends to be higher than that of male counterparts	○	○	○	○	○
It is harder to retain female ICT employees in the medium to long term	○	○	○	○	○



The eSkills Malta Foundation has published Guidelines to Increase and Retain Women in ICT.

These guidelines are aimed at all stakeholders who may have concerns about the low percentage of women in the ICT sector. The relevant stakeholders can be small, medium and large enterprises together with NGOs, gender equity advocacy coalitions, the media, educators, career advisors, the government and decision makers. The introductory part of these guidelines provides a short summary of facts and statistics that describe some issues that women face in the ICT Sector and then suggests possible reasons why women are underrepresented in this area.

Click here if you are interested to learn more.

Please select one: *

- ○ I am not aware of the guidelines
- ○ I am aware of the guidelines
- ○ I am aware of the guidelines and have read them
- ○ The guidelines have been considered by my organisation

In your view, what is keeping female talent away from ICT careers?

Did you take, or are you planning to take, any specific initiatives to attract more female candidates to apply for your ICT job openings? *

- ◯ Yes
- ◯ No

Please briefly outline the initiatives you take / are planning to take

Did you take, or are you planning to take, any specific initiatives to help female employees working in ICT to remain in your organisation and progress in their career? *

- ◯ Yes
- ◯ No

Please briefly outline the initiatives you take / are planning to take

How can the Government support an increase in female participation in the ICT job market?

We wish to stay in touch. If you would like to hear more from us, please provide us with your contact details so we can share findings from this study, best practices from the industry and other important developments on this front.

Full name

First Name Last Name

Email

example@example.com

Phone Number

Submit



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