The Gender Gap in the Technology Industry in Ireland: the Role of Recruitment to Achieve Gender Equality

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Abstract

A number of factors have contributed to gender inequality in the workplace, especially in the technology field, as it is considered one of the most male-dominated sectors. Gender discrimination and cultural influences on women's perceived notions and interests are usually the most associated roots that unfold the issues regarding gender unbalance in technology. As such, areas that are directly involved in the labour market, such as recruitment, may play a significant role in solving or mitigating the problem.

Therefore, the purpose of this research is to explore the role of recruitment to reduce gender inequality in the technology sector in Ireland. It also intends to examine the impact of the gender-associated barriers for female professionals to enter and stay in the industry, as well as the outcomes of addressing the issue.

The study takes an inductive qualitative approach to the methodology from an interpretivist philosophical perspective. It also focused on working females in the technology industry in Ireland for the targeted population through a non-probability sampling strategy.

The key findings of the research identified a number of similarities with existing research, which are related to gender stereotyping, representation, STEM education statistics, pay gap and lack of incentives. In addition, the results also highlighted further issues regarding the recruitment process and its impact on the overarching problem of gender inequality.

Keywords: recruitment, gender inequality, women in tech, technology

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1. Introduction

1.1. Background

Gender inequality in the workplace has been increasingly discussed in the recent literature. Such a difference in the number of female and male employees in the technology industry is widely perceptible by the technical recruitment sector, which is one of the most impactful instruments on the organisational culture (Gardner *et al.*, 2012). Although there has been some progress in tackling the inequality between men and women in the labour market, this progress has not been expressive in recent years, as the number of women employed is still lower than men (Krishnan *et al.*, 2020; Matysiak, and Cukrowska-Torzewska, 2021). A variety of factors can be pointed to that, such as education index and gender discrimination, for instance. Furthermore, other issues such as the pay gap, harassment and maternity leave avoidance are problems that still occur in the present day and have strongly negative impacts on the female workforce (CIPD, 2021). Interestingly, the number of women who graduated at the third level is steadily higher than men, and that does not seem to impact as much as expected in the presence of women in the labour market, given the significant lack of women who work. (CSO, 2017).

More specifically in the technology industry, this reality tends to be more dramatic. Although it is worth it taking into consideration that STEM (science, technology, engineering and mathematics) education is shown to be much lower among women, the number of females working in this industry is exponentially inexpressive in comparison to men. Moreover, they also tend not to stay in the position, which contributes to the issue (Matysiak, and Cukrowska-Torzewska, 2021). In addition, Branson (2018) suggests that the technology industry does not seem to pay sufficient attention to diversity in general, despite its positive impact.

1.2. The Technology Industry

The technology industry has been dictating exponential changes and improvements in the way of living, cultures, and even the way of thinking of the global society (Rifkin, 2011). Since the

Third Industrial Revolution, technology has been pushing boundaries and questioning old generation perceptions, which has been one of the reasons why gender inequality in the workplace has become an increasing issue to be discussed and tackled, as opposed to the extent to how much it used to be debated before the massive change in global culture.

Evidently, technology is not the only industry that is male-dominated, other industries such as construction, farming, aerospace engineering and even architecture, in which approximately one out of two graduates are women, female professionals are underrepresented (Bureau Of Labor Statistics, 2019). Nonetheless, the technology industry was chosen for this study as the sector has been shown to be the industry that leads the most crucial changes even in other fields. In fact, essential industries such as healthcare, supply chain, communication and agriculture have become fundamentally dependent on technology (Hecht, 2018). Its impact has also been the protagonist of the Fourth Industrial Revolution, evidencing the switch of mentality and reliance of society on new digital advancements, such as automation processes and Artificial Intelligence. Despite its major incontestable impact on economic growth, health and so on, it may reflect on employment not only positively, but also negatively, reinforcing gender inequality and emphasising the stereotype of genders (Schwab, 2016).

1.3. Ireland – The Technology Hub

Employment in the technology sector influences directly the areas where the companies are established. The industry is recognised as one of the biggest and highest-demand employers, with some of the highest wages, which also contributes to such an impact on the regions where the technology companies decide to offer opportunities (Sava, 2022). Apart from Silicon Valley in the United States, there are a number of cities that concentrate the most technology opportunities, such as London, Amsterdam, Berlin and Paris in Europe (Holt, 2020); and other cities that are expected to lead the technology centres in the upcoming years, such as Singapore, Tel Aviv, Tokyo and Bengaluru (KPMG, 2020).

Yet, the technology sector has a significant presence in Ireland, Dublin particularly, which is ranked as the third technology hub by the Foreign Direct Investment (FDI, 2021). Ireland keeps the headquarter of the world's largest and most impactful technology organisations, including the Big Five with Microsoft, Facebook, Amazon and Google in Dublin and Apple in Cork, and the sector has the highest salaries in the country (CSO, 2022; Ovide, 2021). Therefore, this

research will concentrate on Ireland with an emphasis on Dublin as the site of the study, given that the country and the city might consist of a significant representation of the technology sector in Europe, as well as its current characteristics towards gender inequality.

1.4. The Research Problem

The recent literature has been proposed some solutions to tackle the issue and significant changes have been approached across the world by new legislations and good practices to balance the genders in the workplace. Some of the recent steps that have been taken are gender identity law in Argentina since 2012 (TGEU, 2013), the transparency act that allows workers to know their co-workers' salaries in Germany (Petzinger, 2018) and The Gender Pay Gap Information Act 2021 in Ireland that requires companies to report the gender pay gap within their organisations (Gov.ie, 2022).

Not only do these propositions show that some measures have been taken towards gender inequality, but also evidence that these measures were only put in place recently. In other words, despite the recognised progress in the last decades, it still seems to be a long path. Additionally, some of the proposed solutions would depend on the external environment, such as the increase in the number of degrees in STEM education among women, for instance (Hill, Corbett and Rose, 2010). Finally, the propositions with a focus on Human Resources and specific attention to recruitment and selection appear to be scarce in the literature for the Irish labour market, as the majority of the studies have been taken in the American labour market due to its expressive concentration of large technology companies originated from it (KPMG, 2020).

Although American companies may influence the organisational culture when in other countries (Wijewantha, 2019), it is important to have a deeper understanding of the Irish market regarding the gender gap in the workplace from a local perspective, so the plan of action can be more assertive and focused. Considering the impact of the technology industry on Ireland and the importance of the country to the sector, it is essential to adequate the literature specific to the Irish labour market and, as the measures appear to be slow-moving from the external environment, recruitment may be the natural course of action to address gender inequality.

1.5. Aims and Objectives of the Study

The aim of this study intends to address the gender inequality in the technology industry and explore the role of recruitment as a change agent. This research proposes to deeply comprehend the influence of the industry and human resources in the mitigation of the gender gap in the technology industry, focusing on what recruitment can do to tackle this issue. It is important to emphasise that, for the purpose of this research, the focus will lean on the general meaning of gender gap in relation to the proportionality of females and males in the labour market, not necessarily focused on the difference in earnings, the gender pay gap. Such definitions will be covered later in this paper.

From this perspective, the study also seeks to explore obstacles that females might have to face in order to start and stay in the technology sector, in addition to understanding the impact of achieving gender equality, as well as the consequences of maintaining the gender gap in the industry. Moreover, the study is expected to instigate changes and further research in order to lessen the inequality of genders in one of the most important industries in Ireland. As having the considered third best technological city in Europe – Dublin (Taylor, 2021), this investigation, therefore, will be focused on the Irish labour market, specifically.

1.6. Significance of the Study

It is important to understand the possible factors that might cause the gender gap so that the technology sector can clearly acknowledge the benefits of gender equality and what exactly needs to be done, recruitment and selection can be re-thought and improved, and the female workforce can see more representativity in the sector. Although it is the second most profitable sector in Ireland (CSO, 2020a), the technology industry is responsible for nearly half of the most challenging positions to fill in the country (SLMRU, 2021). By understanding the market, the labour market expectations and the possible improvements that can be done toward the female labour force, companies may benefit from this research and alleviate the difficulties to fill technical positions in their teams. The significance of this study also lies in facilitating the recruitment assignment in talent attraction and retention.

1.7. Limitations of the Study

As the research will focus specifically on the aspects of recruitment within human resources, some of the limitations that might be encountered will relate to the lack of other aspects in human resources that could be approached to discuss the questions, such as talent development, diversity management and so on.

The research will follow the qualitative approach to methodology, having working females in the technology industry in Ireland. As such, it will be limited to a small sample representativity rather than a more detailed demographic data. Additionally, although the site of study is concentrated in Ireland, the participants may have a range of different cultural backgrounds that will not be specified in the research.

The sample group targeted for this study will be focused on females. Further limitations will be the fact that other involved sample groups will not have their viewpoints evaluated, such as company representatives, working males and recruitment practitioners.

1.8. Structure of the Study

The research is structured into six chapters that will cover secondary and primary research, respectively. An appendices section can be found after the last chapter, followed by the list of references.

The first chapter will introduce the topic of gender inequality in the technology sector in Ireland, highlighting the main points of the industry and site of study. It will also briefly discuss the research problem.

The following chapter, the second, will cover the secondary research with the literature review. It will cover the main aspects involving gender inequality, such as cultural perspectives, education, workforce and recruitment biases, with a critical analysis of what has been discussed in the literature.

The research questions, aims and objectives, as well as the methodology will be detailed and discussed in the third chapter. It will justify the approach chosen for the proposed research, the

research design and the sample group, giving clarity to the direction of the study and its motivations.

The fourth chapter will analyse the findings of the primary research, which will consist of open-ended questions, evaluating the opinions of the females working in technology, establishing similarities and discrepancies regarding their views on the gender gap.

The next chapter will discuss the findings from the research and contrast with what the literature has been already discussing. The fifth chapter will also have the objective of encountering patterns, similarities and differences, in order to point out possible solutions or suggestions for improvements.

Finally, the sixth and last chapter will conclude what was covered and discussed in the research, attempting to provide recommendations to the industry, recruitment and further research.

2. Literature Review

This chapter has the objective of exploring and examining the relevant literature concerning gender inequality, the technology industry, the site of study in Ireland and recruitment in order to support the research as a source of secondary data.

The literature review is organised considering the unfolding of the underpinning conceptions and issues encountered in previous studies. It covers from the overall gender gap situation, following to the social-historical context, cultural perspective, stereotypes and females' perceived notions, leading to representation issues, STEM education statistics, and the industry and workplace impacts. Finally, the chapter discusses the recruitment role.

2.1. The Gender Gap

The gender gap is defined by the difference between males and females in the labour market that can be observed in various forms, such as in the demographic balance, earnings, sectors and so on. Although it has been a long-time discussed issue and has been dimensionally affecting society, culture, economy and technology, recent studies indicate a perennial parity to be achieved (Goldin, 2019; World Economic Forum, 2022).

The perception of gender roles has developed and modified across history and so has the way the impact of this evolution is perceived (Zhu and Chang, 2019). Such changes have protractedly improved the differences in the rights for women and men, yet it is far from saying that there is equality between genders. The literature has vastly addressed the discussion of the issue in recent years; however, although it can be observed the approach to the problem to some extent through society, organisations, legislation and so on, it seems not to encourage the workplace enough to genuinely tackle the matter (Krishnan *et al.*, 2020; Matysiak, and Cukrowska-Torzewska, 2021).

Interestingly, a range of reasons may be attributed to the positive impact of reaching gender equality in the workplace. A 2015 McKinsey Global Institute report indicates that equality between men and women could boost the global economy by $12 trillion by 2025 (Woetzel *et al.*, 2015). Moreover, gender equality and overall diversity are shown to have a highly positive influence on the profit increase for the companies in the best quartile studied, with a 21%

likelihood of having more profit than the other organisations. In addition, it was observed a better return of investment in the companies that have a more expressive representativity of women in the workplace, according to another McKinsey Global Institute in 2017 (Hunt *et al.*, 2018).

Nevertheless, the majority of organisations still avoid taking a stand to address and solve the issue, especially in the technology industry, where there is significantly male dominance. As an example, the women's representativity in the workplace among the Big Five, 5 largest technology organisations in the world (Google, Apple, Facebook, Amazon and Microsoft) is slightly lower than one quarter. This is extremely disproportional and may be rooted in a variety of factors facing female professionals in the technology industry that persist to make the gender gap steadily continues, despite the few improvements that have been achieved in recent decades (Richter, 2021). Such reluctance might be evidence of how sociological perceptions can reflect the evolution or stagnation of society as a whole.

2.2. Socio-Historical Context

Sociological perceptions have always influenced the role of women in society since before the greatest global changes but more evidently from these changes, such as the First Industrial Revolution, for instance, that intensified the presence of women in the workplace (Tilly, 1989). Other historical events that impacted on that matter also forced and help women to conquer more space in the workplace, with World War I and World War II unfolding (Rowbotham, 2018).

These events, among others, unlocked and reinforced the movements for equal rights for men and women, reshaping the role of women in society. Such claims for equality have been necessary, not only in the workplace but in other aspects that would directly influence females in the labour market. In Ireland, for instance, the participation of women in the Irish Revolution also arose movements in defence of equal rights and gender discrimination, contributing to an evolution in the perception of the female role in Irish society (Connolly, 2020). Moreover, such an evaluative process led to demographic changes in the sense of giving women more power to decide to marry later, have smaller numbered families and acquire a (or a sense of) control of their paths in life (Abzug and Mim Kelber, 1984).

Therefore, it is safe to say that history has been playing a pivotal role in women's role changes in society and the gradual evolution of their representativity in the workplace. However, the changes in society's perceptions regarding women might still be resistant in terms of the difference in female and male roles. Women are usually expected to have different behaviours and aspirations than men that are observable and reflected in their career, combined with the fact that the decision-making concerning career paths tends to come from a male-predominant body of management (Abzug and Mim Kelber, 1984).

2.3. Cultural Perspectives and Gender Stereotyping

These pre-conceived expectations from women in regard to their behaviours and their own expectations are sometimes shaped by cultural perspectives. The cultural perspectives directly influence society's values, as well as how they deal with the role of women and men. Some cultures would value the women's role in society more than others, in addition to the segregated responsibilities between men and women, expecting different aspirations according to gender (Andrews, 2021; Cheung and Chan, 2007). Additionally, the cultural views have also implications on social class, where a higher value is given to women from a rich class and lower to females from a poorer class (Okin, 1994), reinforcing the injustice factor regarding gender inequality. To illustrate that, Woods (2022) suggests that culture in Ireland is still an issue when it comes to gender inequality in higher education, for instance.

As one of the characteristics of the acknowledged resistance of the society in changing their perceptions in relation to females might be implicit in the gender stereotypes. They are commonly used to justify that things are what they are and do not necessarily require shift in perspective and are reinforced by cultural perspective. They are the anticipated assumptions of the kind of behaviours or characteristics that should be expected from a person based on their gender, which can be seen from a positive perspective, as well as a negative one (Office of the High Commissioner for Human Rights, 2014). It is strongly related to what people believe and the effects of their social interaction, rather than to facts (Tabassum and Nayak, 2021), so deconstructing centuries of cumulative stereotypes may be a longer and more laboured process than it seems, as it is embodied in people's assumptions of reality.

The way of understanding the reality and leading with gender stereotyping would not be exclusive to men, but also to women, which makes the deconstruction process of allocating

females for their skills rather than for their "gender suitability" even more challenging. An example of this is the well-known once British Prime Minister Margaret Thatcher who, despite being considered a role model for women in politics, never explicitly spoke about or stood for the disparity of genders in the workplace, including her body of ministers who were entirely male-composed (Murray, 2013). On one hand, her argument was of meritocracy regardless of gender; on the other hand, she might have missed the opportunity to be a key player in the demystification of gender stereotypes in a more representative way.

Gender stereotypes tend to have more negative than positive impacts and affect more women than men. More than that, it influences the females' decisions and interests in relation to education and career, leading to a gender gap issue. It limits the range of possibilities considered as options for women and men (Leah and Culhane, 2018). The challenge in tackling the issue in order to mitigate its negative impacts is that it leads women to think that "male occupations" are not an option.

2.4. Women's Perceived Notions and Interests

The female's perceptions of their own interests and skills are hugely affected by stereotypes that are established throughout their lives, influencing their decisions and career paths. The early association of girls with reading, fashion or human-related science and the association of boys with maths normally comes from the influence of family, teachers, culture and the lack of role models (Kahn and Ginther, 2017).

However, other factors may influence females' preferences, such as the acknowledgement of their own skills. According to Stoet and Geary (2018), the fact that females can have greater performance either in maths and reading and people-oriented subjects, give them the opportunity to choose not to pursue a career in technology. As a matter of choice, women tend to prefer cerebral or people-oriented opportunities, instead of the ones that demand physical skills (Lordan and Pischke, 2016). In Ireland, people-oriented occupations such as caring and leisure, administrative and secretarial, and sales and customer service are majorly female-dominated; whereas brawn-related occupations are dominated by males, such as agriculture, transportation and construction (CSO, 2019b).

Although the factors above-mentioned may play important role in understanding the underpinning reasons that influence gender inequality, females still face barriers and obstacles when they decide to pursue a career in the technology industry. Such difficulties would probably not persist if the main factor concerning the gender gap was solely associated with their perceived notions and interests.

2.5. Representation and Pay Gap

As a majority-male industry, the representativity of women is clearly scarce. Most women face difficulty in pursuing career progression, experiencing gender favouritism to promotions and being evaluated by different requirements, while having to put extra effort at work to prove their value in comparison to other male workers (Sullivan-Hasson, 2021; Thomas *et al.*, 2019).

If women are outnumbered in STEM jobs, their lack of representativity in the senior and leadership positions in the technology industry is even more dramatic. In the United States, women correspond to only 28% of the leadership positions in STEM jobs (Awad, Hennessy, and Morse, 2021). Similarly, Amazon, for instance, still has only 22% of women on their body of senior managers globally (About Amazon, 2020).

The lack of female leaders in the technology sector certainly contributes to the lack of role models, as it may build confidence and widen the perceptions of what a STEM job is like (González-Pérez, Cabo and Sáinz, 2020). Moreover, the lack of incentives also contributes to women to be inspired in technology (PwC, 2017). The importance of role models is crucial to inspire and build up women's interest in STEM opportunities (O'Connell, 2021). Interestingly, this lack of representativity is already perceptible even before the academic stage in Ireland among young women, as there is a tendency to avoid the field due to the perception of inequality between women and men (Riegel, 2021). In fact, the reality of female Chief Executive Officers in Ireland corroborates the perception of the teenagers mentioned above, as only 11.5% of the CEOs are women, in comparison to the massive majority of men (88.5%) (CSO, 2020c). Given that, it is observed that the more senior is the position in the workplace, the more unrepresented women are.

Gender inequality goes beyond the lack of representativity, and it is also evident in the pay gap, despite the improvements in the last decades (Matysiak and Cukrowska-Torzewska, 2021).

Women in the technology industry in the U.S. have 74% less income than men (Fry, Kennedy and Funk, 2021). Similarly, female software development professionals in Ireland earn 76% less than males (CSO, 2020c). The complexity of the issue may make it more challenging to tackle a solution, as a number of reasons could be attributed to the gap, including the type of work and working hours, for instance (Miley, 2020). However, Sterling *et al.* (2020) also suggest that the high pay among men in STEM jobs is related to their skills confidence and the exact opposite is believed to happen to women, who might have a lack of confidence when considering a technology opportunity, leading them to be more likely to accept lower pay. This lack of confidence might be a result of the above-mentioned stereotypisation of genders and their skills beliefs.

2.6. STEM Education and Retention Gaps

One of the first and important factors that directly affect the talent pool, enforcing the gender gap in the technology industry is the lack of female graduated professionals in technology-related fields. According to CSO (2020), although the number of women that hold third-level graduation in Ireland is higher than men, this tends to be different when it comes to science, technology, engineering and mathematics (STEM) courses, where only approximately 30% of the STEM graduates are females, as opposed to a significantly higher number of women that hold degrees in humanities, health or education fields, for instance. This reality seems to be similar also in the United States, as women correspond to a higher number of degrees in comparison to men, but significantly lower in STEM fields (National Science Board, 2018). In other words, there is an extremely discrepancy between women and men for STEM-educated people in the talent pool. It might not be a deliberate choice, as it could be rooted in the stereotypisation of genders and their chosen professions, which might have a significant influence on the workforce culture of the technology industry and the retention gap (Flood, 2014; Hill, 2015). Another important factor that might be associated is the difference between females and males in the exposure and access to technology, as fewer women are reported to have access to use and afford technology in comparison to males (OECD, 2019).

The issues surrounding the retention of female professionals in the IT industry are evidenced by the inexpressive increasing rate of women working across the last decade. Specifically, in the information and communication technologies (ICT) industries, the increase of women in

the workplace was around 2% between 2010 and 2018 in Ireland, which means that little might have been done to change the current situation (CSO, 2012; CSO, 2020b). Moreover, not only is the gender gap impacted by the lack of STEM-educated women, but also by the fact that they tend not to stay in the industry for long, aggravating the problem. In fact, women who work in the ICT industry are more likely to leave their STEM jobs than men within a year, and this might be related to how women perceive, are led to perceive, are treated, or feel in the workplace as a male predominant culture (Hewlett and Sherbin, 2014).

2.7. The Technology Industry Viewpoint

Diverse technology companies are shown to have more profitability than other organisations, especially if the number of female leaders is higher. In fact, mixed workplaces contribute to new ways of thinking and innovation, something that is widely expected from and invested in by the technology industry (Montilla 2020; Awad *et al.*, 2021; KPMG, 2019). Yet, the attempt to address the matter seems to be undertaken by the industry in a superficial way that appears to be limited to what the talent pool can offer for hiring and promoting only, with little effort to resolve the rooted issues that influence the gender gap (Brandon, 2018). In other words, solutions to resolve the matter have been positively proposed, but it is safe to say that they might be insufficient, given the lack of substantial results to achieve equality.

Improvements, however, have been observed with a number of global strategies from organisations from all sectors across the world, which have reached the gender gap to be over 68% closed. In Ireland, this figure is even higher, with 80% of gender equality (World Economic Forum, 2022). It is still a concern when it comes to leadership representativity, as only 24% of women have leadership roles in the technology industry worldwide. This data emphasises the male dominance of the workplace environment and its decision-making predominance.

2.8. Male Culture and the Workplace Environment

A Hewlett and Sherbin (2014) report suggests that the male-dominant work environment in the technology industry is usually hostile and make women feel secluded from work, finding it more difficult to be heard and have their ideas considered.

Moreover, women in STEM jobs are also more likely to be discriminated against by their gender and also experience sexual harassment, according to a Pew Research Center report (Funk and Parker, 2018). Importantly, gender discrimination is not only associated with maternity leave avoidance but more commonly linked to a diminished way that women may be perceived by the industry as being disrespected in the workplace, being perceived as less competent or even the lack of support in comparison to men in the same environment.

Again, this culture might be, sometimes unconsciously, enforced by the gender stereotype that men are more likely to succeed in science and women in humanities or reading-related fields. Although men seem to be slightly more successful in science than women (Mostafa, 2019), Stoet and Geary (2018) suggest that this would be more related to how good they think there are in science, differently from women who, even able to be successful in science, would prefer to study a non-science related course, as they could perform even better. In other words, the male workforce culture within the technology industry might be rooted in the self-perception of male and female individuals on their skills and abilities possibly fed by the gender stereotypisation. In fact, it has been observed in the recruitment sector that this elevated confidence that males might have in relation to their technical skills also influences the technology industry and recruitment assumptions towards males. As such, unconscious bias in recruitment may play a role in the gender gap, given the unintentional need of association of what is similar and the impact on males' reliance on their own perceived notions as technology-oriented professionals (Knight, 2017).

2.9. Bias in Recruitment

Unlike the external environment factors above-mentioned that influence gender inequality and have a dimensional proportion concerning the challenges in tackling the issue, the recruitment process tends to be one of the first direct contacts with the worker and the workplace. As such, it is through recruitment that companies might have the practical opportunity to develop initiatives into gender inequality. However, unconscious (or conscious) biases in recruitment tend to perpetuate the situation as physical characteristics and stereotypes strongly affect hiring managers' decision to whether to hire a female or not. More than that, Reuben, Sapienza and Zingales (2014) indicate that employers tend to hire males with lower performance over

females with higher performance, which demonstrates that gender bias in recruitment is an important barrier to be issued in order to lessen the gender gap.

Such disparity goes back to the exacerbated confidence that male professionals tend to have even before the recruitment process, as they tend to apply for jobs even though they might not be completely qualified, as opposed to women to tend to apply only when they consider that they have all the requirements (Mohr, 2018). Further, nearly 40% of the employees in Ireland have the perception that they were selected by their gender (Hays, 2021). In fact, this is also an undebatable discussion among technology recruiters, who acknowledge that there is bias in the recruitment process for technology positions (CodePad, 2022).

Considering the behaviour of the technology industry towards gender inequality, it is alleged that not promoting changes to tackle the issue might keep the sector in a comfort zone, once it requires dimensional changes in strategy and cost. Nevertheless, reducing the gap also can also increase innovation and profit (Phillips, 2014), so it could be in the organisations' priorities to attempt to change the reality, considering their most practical and accessible tool, which is recruitment.

2.10. Literature Review Conclusion

Gender inequality in the technology industry is rooted in a series of factors with high dimensions and complexity that makes the issue extremely challenging to be tackled. The social-historical underpinnings and gender stereotyping have been some of the most important agents in the creation of barriers to women and also arising the proposed discussion.

Women's perceived notions might be influenced by the social context, stereotypes and also their individual interests, which means that the element of gender itself might play a role in the career path decision along with the influences of the external environment from the women's perspective. However, other hindrances can be found within the technology industry, with a not particularly stimulating workplace environment for females.

Finally, the literature observes that the most impactful issues on gender inequality are usually positioned at a higher level of collective influence in comparison to recruitment. which limits its possibilities in terms of changing the reality of the gender gap. Yet, tackling the issues encountered in recruitment might be potentially substantial to achieve significant changes.

3. Methodology

3.1. Introduction

The research methodology proposes to explain and justify the direction of this study, describing how the study was conducted, as well as outlining the methods used (Bryman, 2008). To define an appropriate approach, the methodology will take into consideration the focus of the study, which is to explore the role of recruitment in the process of reducing gender inequality in the technology industry.

As such, the investigation will be concerned with the feminist viewpoint of experiences. Namely, the study aims to explore how recruitment can foster gender equality in the technology sector in the Irish labour market, with the objective of comprehending the difficulties for females and the impact on the industry, so recruitment in technology can be assertive in its approach.

This chapter includes the research questions, aims and objectives, the philosophical assumptions considered for this research, followed by the research design. It also details the sampling group and the reasons why it was chosen, the data collection methods and its analysis. Finally, the methodology covers the limitations of the study and the ethical considerations.

3.2. Research Questions, Aims and Objectives

3.2.1. Research Question

Some initiatives to address the problem of the gender gap seem to be interestingly positive and come from some organisations and legislations. As an example, the recent Irish act from 2021 requires a gender gap report from a considerable number of organisations in the country. However, such legislations appear to be soft enough not to cause a significant effect on reality, as organisations will only have the obligation to report it, not necessarily to propose changes (Irish Institute Book, 2021).

Considering the example of measures to reduce the gender gap just mentioned and adding to the current implications and challenges that recruitment has been facing in Ireland in order to

accomplish the industry needs, it is clear that further propositions should be evaluated and improved. Hence, this study proposes to ask "How could the role of recruitment mitigate the gender inequality in Ireland in the technology industry?".

3.2.2. Research aims

The aim of the research question is to understand and propose what recruitment can do to foster gender equality in the sector, considering its limitations concerning the external environment and given that the recruitment role is also dependent on and limited to the labour market supply. In other words, it seeks to comprehend what recruitment in the technology industry can do to lessen the gap, as well as what role recruitment should have to address the issue and what improvements could be done with the market offer. Additionally, the research intends to contribute to the literature on the impact of achieving gender equality and; consequently, evaluate the possible consequences of maintaining the gender gap in the technology industry.

3.2.3. Research Objectives

The objective of this study is to instigate changes and further research in order to lessen inequality in one of the most important industries in Ireland, a country that is considered one of the technology centres in the world and could progress to be a role model for the matter. Moreover, conveying the gap and possible actions to take to the market not only might optimistically make the industry more innovative, diverse and fair but also may facilitate organisations in taking advantage of the positive outcomes of diversity in the workplace. By investigating the role and influence of recruitment to balance genders in the technology industry, the research objectives also seeks to:

- Comprehend what the technology industry can do to lessen the gap, as well as what role recruitment should have to address the issue and what improvements could be done with the labour market supply.
- Understand the barriers that females have to enter the technology industry, its gender associations and the impact of biases in recruitment.
- Evaluate the impact of achieving gender equality on technology companies and the possible consequences of maintaining the gender gap in the technology industry.

To do so, the study looks to answers the following questions:

- What recruitment could do/change/improve to lessen gender inequality in the technology industry?
- What are the main barriers that females may face to enter and stay in the market and to what extent are these barriers gender-associated?

What is the impact of achieving gender equality and what are the consequences of maintaining the gender gap in the technology industry?

3.3. Research Philosophy

The methodological approach should take into consideration the fact that during the process of the research assumptions are made and may influence the study and, consequently, its results (Burrell and Morgan 2016). Therefore, it is important to define and outline the research philosophy, in order to justify the points of view or results that may outcome from the study.

From the epistemological perspective, Saunders, Lewis and Thornhill (2015) highlight a number of philosophical approaches, depending on the aim of the study. An important philosophical approach, positivism, was not considered for this study, as it defends the idea of factual reality, not taking into consideration other factors that may influence it (Quinlan, 2011) and the research seeks to explore people's viewpoints.

Given the subjectivity of how society comprehends and deals with the differences between men and women and how it has impacted the labour market, this research, therefore, will follow an interpretivist approach to the research philosophy, as the study considers different points of view, thus subjective realities, accepting different interpretations. Interpretivism regards the idea that different cultural backgrounds and circumstances may influence the perspective of reality on each person, which is taken into account in this research. In fact, this paper will focus on people's perceptions and their particular way to comprehend and interpret their realities and their expectations from the interactions with the technology industry environment. Therefore the interpretivist approach is shown to be the most adequate philosophical approach to this research.

3.4. Research Design

The inductive approach assesses the data collected to produce the theory and tends to take into consideration the circumstances, which was the purpose for this research. Conversely, the deductive approach requires the development of theory prior to the research (Saunders *et al.*, 2015). Although the current literature has been contributing to a number of theories regarding the gender gap in the technology sector, the research approach for the development theory of this research was inductive, aiming to generate genuine outcomes in terms of the point of view of the population targeted and avoiding pre-established conceptions.

A mono-method qualitative research approach was shown to be more adequate for this research, as its focus was to assess the working females' perceptions, feelings and experiences, qualitative data, rather than attempting to establish relationships between two ideas or concepts (O'Leary, 2017; Saunders *et al.*, 2015). Following the assumptions to the qualitative approach, the purpose of this research design was motivated by the need of comprehending the issues surrounding gender inequality and the possible actions to be taken by recruitment; therefore, it is an exploratory study in nature.

The research strategy adopted for this research had a cross-sectional grounded theory approach, as this approach aims to deeply understand and investigate the impact of relations in society and explicate its results or outcomes (Saunders *et al.*, 2015; Merriam and Tisdell, 2015). This approach was chosen to take into consideration the need of comparing data and concepts, as well as regarding their derivativity, in order to circumvent the current theories that may influence the research. A number of other research strategies interrelated to the qualitative approach were considered in this research; however, they would unfit for the purpose of the study. Ethnographical and phenomenological researches involve sociological aspects and specific phenomena, respectively, and tend to follow a longitudinal time horizon. Although this research touches on cultural perspectives, its purpose is focused on recruitment actions regarding gender inequality.

3.5. Sampling Strategy

The focus of the research is concerned with female professionals in the technology industry in Ireland, so a non-probability sample of females was selected to participate. As the purpose of the research is to explore and understand the responsibility and contribution that recruitment may be attributed to in order to lessen the gender demographic gap in the technology industry,

the sample group targeted for this research was working professional females currently working in the Irish technology industry or who have worked before in the field. In short, the criteria utilised to define the sample group took into consideration whether the participants considered themselves as females, whether they have worked in the technology industry and whether their professional experience was in Ireland.

As women working in the technology industry tend to be the main protagonists of the studied issue, it is believed that they would have a richer contribution to the understanding of what changes and improvements can be expected from recruitment. As a complementary data source, part of the sample targeted was composed of female managers, as they might contribute to their female viewpoint from a management perspective.

Other populations involved in the environment in which the research was conducted were Human Resources practitioners and technology companies' representatives. However, it is understood that their contribution to the research as a unit of analysis may be already explored in the literature review and possibly limited in the sense of contributing to necessary and expected changes in the industry.

A non-probability sampling strategy was chosen due to limitations in access, but also by virtue of adequacy to the population as working professionals, so a combination of convenience and homogeneous purposive sampling was adopted. The convenience sampling was necessary in reason of the accessibility of the researcher to LinkedIn, the platform utilised to access the population. In turn, the use of the homogeneous purposive sampling had the objective of ensuring a diverse population in terms of cultural background from Ireland and immigrants, similar occupations having software engineering as the main position among the participants and a number of females in the management position within software engineering. The purpose of this strategy was to collect data that was able to convey specific and in-depth information from the specific population targeted (Saunders *et al.*, 2015).

3.6. Data Collection Methods

The collection of secondary data utilised an extensive review of the literature through journal articles, books, electronic newspapers, reports and company websites as part of the instrument of the data collection method for this study. The data collection method used as a research

instrument for primary data a self-completed internet questionnaire with open-ended questions. This instrument was chosen based on a number of factors concerning the population in order to obtain substantial data from the respondents and to take an overarching frame of reference of the participants from their personal perspectives, rather than strictly their individual viewpoints.

Some of the characteristics of the targeted population as working females in technology were taken into consideration such as their propensity to internet usage, therefore an easier access and higher probability to the participants (Alrobai, Phalp and Ali, 2014). This type of instrument also enabled the research to reach a higher demographical range of respondents and proportionated an elevated number of respondents as their time availability upon their convenience. Moreover, due to the evolving workplace environment in the technology industry (Kark, Briggs and Terzioglu, 2019), it was considered more appropriate that a larger size sampling should be aimed, so the data collected could be more substantial. Finally, the time-space to answer the questions through a web questionnaire enabled the participants to think thoroughly and reflect deeper about the underlying issues that each question intends to explore.

This data collection approach was beneficial due to the time constriction of the participants in availability. As opposed to interviews, the questionnaire might have provided a stronger sense of anonymity, as they might feel more comfortable expressing controversial opinions towards their past, current and possibly future employers, which was expected to play a key role in the quality of the data extraction. It helped identify the main point of view of the unit of analysis, as well as their experiences and issues, in addition to being an effective way of standardising the questions and extracting consistent data.

Considering the sampling strategy chosen for the research, the response rate was considered reasonable as 118 potential candidates were approached on the professional platform LinkedIn, with a 24% response rate, as 28 respondents took part in the research. LinkedIn was chosen as the more adequate platform to reach out to the participants, due to the requirement of being a working professional, thus the platform was the most prominent place to have access to the required population. The data collection process occurred in the time-space of 3 weeks between the months of July and August of 2022. The questionnaire was tailored to be perceived as concise and not wildly discursive, taking into consideration the time constraint of the participants, while maintaining the interest of the respondents up to the last question.

The potential candidates were firstly approached on LinkedIn with a brief explanation of the purpose of the research and an inquiry about their interest in participating. Once they confirmed their interest, the respondents were sent a Google Form link with the complete questionnaire. The questionnaire was divided into 3 sections where the first one contained a full explanation of the purpose of the research and the reasons why respondents were considered adequate candidates to participate, details related to the voluntarity of the participants, confidentiality and accessibility of the data, followed by their confirmation of concession. The second section was dedicated to extracting demographic data, such as age and years of experience in the industry. Finally, the third section contained 6 open-ended questions related to women's experiences, feelings, motivations, and viewpoints on the industry (Appendix 1).

The Google Form cloud-based platform was used to extract data for a number of factors, such as the non-existent cost of use, its immediate access to data and easy data extraction. No personal or identifiable details were collected, including the respondents' email, which was necessary to access the form. Moreover, the software allowed response editing, as the respondent had the opportunity to rethink about their answers and change them or add to them throughout the form completion. This was important because any of the questions could unlock different and additional perspectives on their viewpoints. Finally, the data was transposed to an Excel sheet where it was possible to cluster the responses from the participants into the same group of questions, which facilitated the preparation to the data analysis.

3.7. Data Analysis

The data analysis approach for this research took into consideration its interpretivist philosophical assumptions, as well as its qualitative approach in the research design and the data collection methods used. A number of data analysis methods can be considered, serving different purposes (Saunders *et al.*, 2015). A narrative analysis, for instance, was discarded as it is limited to review data in an integral way. Another method, the discursive analysis, is focused on the language analysis in the social context, which would not fulfil the needs for the purpose of this study.

The method utilised in this research for the purpose of the data analysis was the thematic analysis, which allows the findings of patterns, similarities, and discrepancies of data by the use of codes and themes, generating possible theories and conclusions. It required a flexible

approach, so a reflexive thematic analysis and it was chosen due to the subjectivity of the data, considering that the respondents' experiences, motivations and opinions are singular and based on different realities. From this perspective, the thematic analysis used a combination of inductive and latent approach, attempting to identify this singularity in not pre-establish conceptions about the data and subjectivity in considering its implicit meanings (Saunders *et al.*, 2015; Braun and Clarke, 2006).

Firstly, the data preparation consisted of extracting the data in its integrity from Google Form into an Excel sheet and get familiarisation with the content. All respondents was confirmed to have consented to their participation in the study and each of them identified themselves as a female. The second step to analyse the data was dividing the data according to their age group and seniority (years of experience). The following stage was the creation of codes for each of the responses, which enabled the subsequent creation of group codes, later establishing patterns and building the themes necessary to develop the analysis. |Finally, these themes were compared and correlated to the age groups and seniority of the respondents and the findings were clustered according to the main questions from the questionnaire, interlinked with the research questions.

3.8. Limitations

The limitations observed in this research were expected, considering its nature, as well as its aims and objectives. As qualitative research, the findings might not have been as representative, despite its sample size. Further, no specific data relating to nationality or cultural background was extracted, which could have provided a non-conclusive foundation for the respondents' perspectives. Similarly, the research lacked detailed information on the title position and sector within the technology industry, presenting more generic findings in terms of the industry.

Additionally, although the researcher attempted to explore the literature with specific focus on Ireland, a considerable amount of the substantial data in the literature appeared to have an overarching approach with global focus on even American data.

However, the sampling strategy had the purpose to minimise the limitations mentioned and attempted to collect equal-value data. Furthermore, the research also attempted to use global literature in order to contribute to the Irish site of field.

3.9. Ethical Considerations

This study took into consideration the ethical issues throughout its entire development process. Differently from the previous traditional way to perceive ethical considerations in research, its importance and application now tend to be incorporated into the entire research grounds (Hammersley, 2000). Moreover, it is paramount to have regard to ethical issues, especially for feminist-related research where the researcher's perception of reality may have an influence on the viewpoints and direction of the research (Miller *et al.*, 2012).

For the purpose of following the ethical procedures, all the participants took part in the study voluntarily. They were approached on LinkedIn with a short message about the purpose of the study overview and then asked about their interest in participating in the study. A link with full details about the purpose of the study, followed by the questionnaire was sent to the participants who agreed in participating. Before responding to the questionnaire, each participant was asked to read and agree with the informed consent and was assured of their total anonymity and confidentiality (O'Leary, 2017).

In order to comply with the General Data Protection Regulation (GDPR), the researcher ensured that the use of Google Form did not collect and held any identifiable data, including name, email address, or similar (Citizens Information, 2021). Further, the researcher is the only person with access to the data, which is stored in a cloud-based password-protected account.

3. 10. Methodology Summary

To conclude, this chapter had the aim to unfold the methodological steps taken in this research. It presented the research philosophy with an interpretivist approach from the epistemological perceptive, followed by the research design, which took the inductive qualitative approach to the study with a cross-sectional grounded theory research strategy.

In regard to the sampling strategy, working females in the technology industry were chosen to be the targeted population, with a combination of convenience and homogeneous purposive non-probability sampling. The data collection method was through a questionnaire, assisted by the platforms Linkedin and Google Forms and the data analysis used a reflexive thematic

analysis with a combination of inductive and latent approaches. Further, the limitations of the research were related to the cultural background and literature review from outside the site of study. The chapter also detailed the ethical considerations related to voluntarity and confidentiality. Succeeding the methodology, the following chapter will examine and analyse the data collected and further discuss the results.

4. Findings

This chapter aims to present and describe a detailed analysis of the results from the data collection for this research, examining the findings from the primary research that was taken in order to support and explore the aims and objectives of the study. It attempts to provide an in-depth understanding of the role of recruitment in tackling the gender inequality issue.

As a matter of contextualization, this section will provide a brief overview of the analysis methods and description of the sample, following by some demographic information that reflected the underpinning of the findings. Further, the key findings will be presented based on the most impactful themes encountered in the research and will be organised into themes. A conclusion will summarise the key points in the results.

4.1. Analysis Methods and Sample Description

The qualitative study had the participation of 28 respondents who were all working females in then technology industry in Ireland. The research was conducted from a reflexive thematic analysis perspective with a non-probability convenience sampling strategy, having an open-ended questionnaire as the research instrument.

Although some demographic questions were not included in the research, the homogeneous purposive sampling strategy supported the researcher in reaching out to the population targeted having in mind the cultural background. Therefore, an average of 50% of women with Irish cultural background out of the 118 that were considered and the other 50% split among Indian, Brazilian and other cultural backgrounds from other European countries, so the data had a range of cultural perspectives.

From this analysis, six key areas of discussion were found as the most important and concerning for women, which, in order of relevance, are: stereotypes; education and technology exposure, lack of representation, lack of confidence and incentives, bias in recruitment and the importance of diversity in technology.

4.2. Demographic Context

Of the 28 responses, two-thirds were aged between 25 and 34 years old, followed by 25% of women aged between 35 and 44, and a smaller portion of the responses with ages between 45 and 54 (two respondents) (Figure 1).

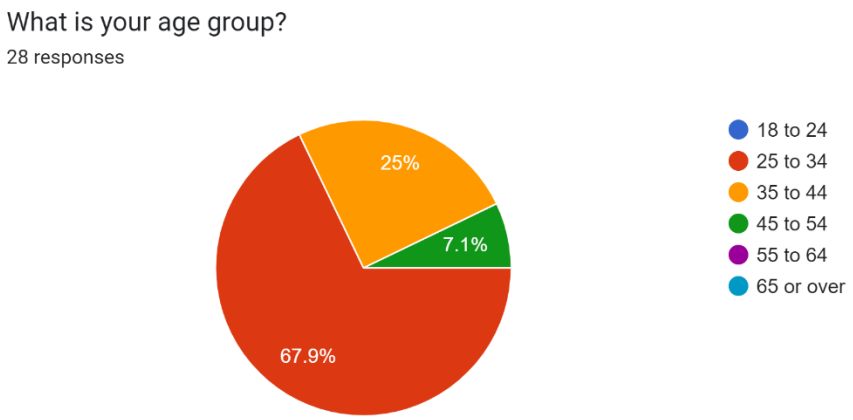

Table 1 – Age group

Interestingly (and positively for the aims of the research in terms of knowledge of the industry), almost half of the respondents had more than 7 years of experience in the technology industry (42.9%), in addition to one fifth of the respondents who were even more seasoned with over 11 years in technology (Figure 2).

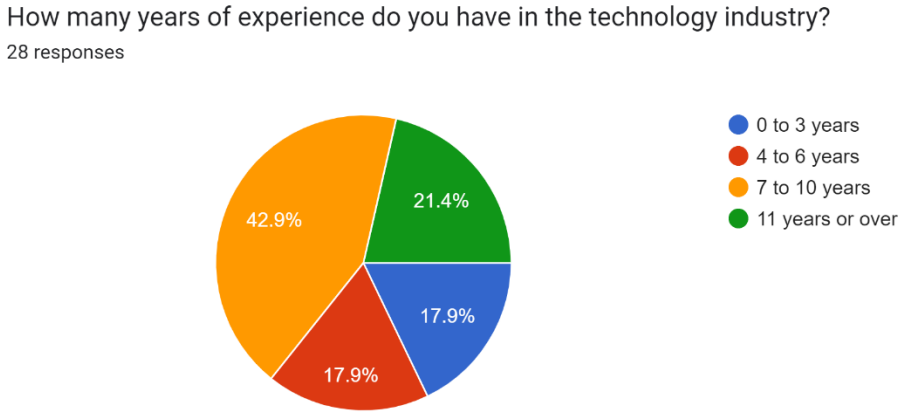

Table 2 – Years of Experience

As a starting point to analyse the importance of representation that will be analysed later in this chapter, the research found a number of reasons that made females become interested in technology. The main agents of influence were the existence of a role model (who were males in almost half of the responses), followed by their own interests and perceived notions and skills.

Almost all women thought that the technology industry is a male-dominated field (89%), although improvements have been observed as they acknowledged. They attributed that mostly to the lack of incentives, representation and gender stereotyping. However, the females that did not share the same point of view thought that it is an essentially skills-based area. Interestingly, those females were mostly in the age group of 35-44 years. A similar proportion of women in the same age group also did not believe that there should be more women in the industry, despite the majority (82%) that defended otherwise.

In contrast, the respondents were with a balanced opinion in terms of the barriers that they faced to entering and staying in technology and their association with gender biases. Half of them believed that there are no barriers gender-related. Again, the majority of respondents with this viewpoint were aged between 34 and 44 years old. Others were not able to precise that as they were immigrants and these types of barriers could have overshadowed others. On the other hand, the 43% of females that did believe that there are gender-related barriers linked that to an unsafe environment to work in, their own lack of confidence and the recruitment process.

Regarding bias in recruitment, the respondents were also divided, although more than half consider that there is bias in recruitment and relate that to unconscious bias, stereotypes and gender discrimination and pay inequality. A considerable part of the other half was not sure of its existence, while 28% (mostly in the younger age group) did not think the recruitment is biased.

4.3. Stereotypes and Gender Discrimination

One of the most consistent themes mentioned by the respondents throughout the study was the implications of gender stereotyping and gender discrimination, which entails society's assumptions about women in the workplace. This pattern was found across all ages and levels of seniority. A great number of respondents highlighted the impact of the mind-set of the

industry toward women, emphasising how it interferes in the perpetuation of gender inequality. In other words, it reinforces the "male-dominated industry" image, as explained by one of the respondents: *"…I think society has created a narrative that it's a man's industry. I think some men help perpetuate that narrative proactively and others through their inaction…".* Additionally, many respondents mentioned that stereotypes make the industry think that women have less time to invest in work due to household or motherhood tasks.

Another implication of stereotypes that the research found was the possibility of creating psychological boundaries where people disregard the job just because it is not considered appropriate for their gender. Moreover, a number of respondents also reported that it turns the workplace into an unsafe place to work, reporting cases of harassment that would mostly happen to females: *"I have experienced sexual harassment at the workplace in my country of origin but also in Ireland and while this can happen also to males, is way more common that women are the target".*

A smaller proportion, however, did not see gender stereotypes or gender discrimination as a significant issue in the technology industry and, as mentioned above, they would mostly attribute such disparity to a matter of interest and skills. *Some believed that "You just need to know technology, have experience and technical skills. Women just need to go for it*".

Finally, a significant part of the participants also believed that not only do stereotypes influence women in technology in the workplace, but mostly before females get to the stage of start working, combined with the limited exposure to technology at home and in schools.

4.4. Education and Technology Exposure

As a leading factor of gender stereotyping, the females perceived notions and interests were reported to be affected. As such, they emphasised the importance of exposure to technology and its influence on females' growing interest, as some of them had early contact with technology through parent's incentive, video games, among other forms: *"I was exposed to it at a very young age around 5. Wrote code from a young age. Always had access to a computer and an internet connection".*

In some cases, the education played an important role in growing interest in females in technology. Many of the respondents were exposed to technology, considering the essentiality of the skills and the amount of opportunities that the field can offer. One case specifically, reported stronger interest only after the decision to study the subject: *"I pursued Bachelor of Engineering in Computer Science so basically I introduced to technology in my college days"*.

The research also found that a significant amount of participants acknowledged their ability to work in technology, despite the lack of gender representation: *"I was always good at math so an engineering career sounded like a good choice… I was used to not fitting in, so I didn't mind the gap while I was in college"*.

4.5. Lack of Representation

The importance of gender representation was considered to be of extreme relevance for the majority of the participants, as they attributed the male-dominant characteristic of the technology industry to the lack of role models that could influence and incentive other women to pursue careers in the field. Interestingly, at least half of the respondents reported having a male role model as the main influencing person: *"…so one day one friend who is male and works with IT asked me why I didn't try…"*.

Moreover, the research detected that the vast majority of women in technology have more male peers than women and there is a tendency of disregarding an area where females cannot see themselves in: *"…as a young person if you don't see yourself represented in a specific area you are less likely to want to be in that industry…"*.Additionally, the respondents highlighted the impact of the lack of representation in leadership positions, also contributing to the pay gap. As described by this response: *"…I was personally earning less for the same position than my male colleges when we were promoted at the same time for the team lead position."*. The study also pointed out that the improvements in representation are observed in more junior positions, but the reality on managerial positions is not the same.

4.6. Lack of Confidence and Incentives

The research findings evidenced that the factors approached by them so far (stereotypes, technology exposure and lack of representation) directly influence their self-confidence in entering and staying in the industry. Most of them reported thinking that they had to do more

than what was expected from males: *"…there was difficulty with acceptance in that I always had to prove myself again and again, which didn't appear to be the same for male counterparts …"*. Other respondents, instead, highlighted the importance of their level of experience and skills knowledge as essential factors to ensure self-confidence in women concerning the industry.

A great number of respondents attributed fender inequality also to the lack of incentives and emphasised the importance of encouraging and motivating women to work in technology. *"…The lack of resources to support women in tech, not enough mentors or leaders in the industry that would work to fix the gap, etc."* are all contributing factors to lead women to choose other areas to work rather than technology.

According to the data analysed, women expected to see encouragement also in the education sector *"…promoting it as an option to females…"*. In fact, the fact that they do not see enough representation also contributes to their motivation to work in technology and leads them to feel insecure in relation to the field, avoiding working with technology. Part of this motivation and incentives could be some of the recruitment initiatives that the respondents considered important to encourage women, such as training, mentoring and conferences.

4.7. Recruitment Biases and Impact

Overall, the working females consider that recruitment plays an important role in gender equality initiatives; however, they evaluate it with a small impact in comparison to other issues that have broader consequences to the disparity of women and men in technology. A great number of respondents believed that "…it may be difficult to improve this as it's a deep rooted issue". On the other hand, at least half of them believe that there are biases in recruitment that can massively influence the recruitment processes against gender equality, as *"often recruiters' own biases can play a big role in recruiting. Recruiters' own likes and dislikes, stereotypes related to some cultures, ethnicity and people…"*. Moreover, the study identified that, again, there is a lack of representation in the recruitment process as well, considering that "candidates should be interviewed and reviewed by a number of people from different backgrounds - race, gender, etc.".

In addition to the bias in the recruitment process, its impact on the gender gap is perceived by the participants as a limited source of catalyst of change, because it normally deals with the product of the previous layers of issues only. This response illustrates it well: *"I think that recruitment does not have that much of an impact as society and schools. From experience, females do not even apply to tech jobs and recruiters do not even get the chance to help them"*.

Finally, there was a significant amount of respondents who also mentioned that they would only apply for jobs that they feel they are completely qualified for and would avoid applying for jobs that require skills that they might not have.

4.8. Importance of Diversity

The last theme that this research identified is related to the impact of diversity on the technology industry and the benefits of balancing gender for the technology companies. A notable number of participants emphasised that the technology industry could benefit from gender equality and diversity in general due to women's perspective to problems, which tend to have different approaches, elevating the level of creativity and productivity. In their words, *"...the more diverse the environment the better the product can be..."*, *"Women's logic is different from men's and it helps to provide a wider range of technical solutions".* In addition, a diverse environment provides a more comfortable workplace for all genders, as opposed to only one, according to some responses.

Finally, they believe that *"by not attracting as many females into the industry I think industry in Ireland will fall behind other countries"*. In other words, the study found that the industry could miss opportunities to grow innovatively and creatively, considering the viewpoint of most women in the research.

4.9. Key Findings Summary

The key findings of this research were identified as some of the main points of issue for the gender gap in the technology industry. It showed that there are limitations in terms of the role of recruitment to tackle the issue due to broader and more impactful problems.

Gender stereotyping and gender discrimination were considered one of the most impactful issues along with the lack of representation that females addressed as influential factors to perpetuate gender inequality. Other aspects that women gave light to were related to the influence of education and technology exposure, as they could guide them in the industry or even a reason to avoid it. All the factors mentioned above were pointed out by the respondents as influencer factors to the lack of self-confidence that inhibits women to work in the field. This combined with insufficient support and incentive aggravates the problem, although the study also identified that females acknowledged that some initiatives of improvement have been taken, however, with a slow path.

Furthermore, the study also outlined that diverse workplaces are expected to be more creative and productive. Lastly, the study identified that even though the impact of recruitment may not be significant, according to the participants, the existence of biases worsens its role as changing agent.

5. Discussion

This chapter attempts to discuss the key findings of the present research by interpreting, exploring and explaining their meanings. It intends to identify the significance and importance of the results provided to the aims and objectives of this research, which seeks to understand how recruitment can foster gender equality in the technology industry in Ireland. Further, it seeks to understand the role of recruitment in that regard, the gender-associated barriers for females and the impact of gender equality on the industry.

The analysis of the data identifies that there is bias in the recruitment process and also suggests that the impact of recruitment on mitigating the gender gap might have a small proportion in comparison to other deeper implications. Additionally, the data support that gender stereotypes and lack of representation play a significant role in the matter. Interestingly, the data indicate that barriers to entering and staying in the technology industry might not be overly gender-associated. Finally, the research recognised that the technology industry is perceived by females as a male-dominated field and gender balance is important for them.

5.1. Gender-Associated Barriers

The research indicates that the main barriers that obstruct the increase of women in the technology industry in Ireland are gender stereotyping, the lack of incentives and the lack of representation. Although many females could not explicitly confirm the existence of gender-associated barriers to entering and staying in the industry, most of them, on the other hand, acknowledged a number of difficulties that are related to gender inequality or gender discrimination. Interestingly, most of the respondents who did not recognise gender-associated barriers in the technology industry were aged in their peak earning years (CSO, 2019a), which might imply their level of work and focus on career as a factor of influence on their point of view on the matter.

The lack of representation is a gender-associated barrier that highly linked to factors that generate interest in females to pursue a career in the technology industry. In fact, the existence of role models is extremely important to inspire women to work in technology, as they might feel more comfortable, as opposed to working in an environment male-dominant (O'Connell,

2021). Additionally, the data suggest that representation is a matter of seeing themselves in the field as a way of encouragement.

In fact, the importance of encouragement was identified as crucial to generating interest in females to work in technology. According to the data, there is a lack of incentives from early education to the workplace, which is also reinforced by the lack of representation that lessens the likelihood of women contemplating the industry. According to a PwC on women in technology, incentives are necessary because the lack of advice, especially in schools, may deprive females of having technology as a choice (PwC, 2017).

Gender stereotyping and gender discrimination was shown to have one of the biggest impacts on gender inequality, the study indicates. According to the respondents, gender stereotypes create assumptions that influence women, men and the industry, discouraging women to apply for technology jobs due to their unsafe environment to work in, creating the idea that women are not good enough in STEM jobs, and establishing a male-predominant industry. In fact, the stereotypes can influence the women's own perceptions of interests and make they think that they might not be suitable or good enough for technology when in reality, there is a built up stereotypisation that influences their future-decision making and impact on their self-confidence (Stoet and Geary, 2018; Leah and Culhane, 2018).

5.2. The Role of Recruitment

The data suggest that there is bias in recruitment and it impacts negatively on gender equality, which is also acknowledged by recruiters (CodePad, 2022). Although the data was divided regarding the existence of biases in recruitment, most of the respondents that did not recognise those elements were younger and new to the industry in terms of experience. This may infer that their knowledge and experience in relation to recruitment processes and how it works might not be sufficient to identify biases in recruitment.

The part of the data that recognised bias in recruitment justified it due to unconscious bias and attributed it to stereotypes and gender discrimination and pay inequality. Unconscious bias may occur in recruitment due to the unintentional tendency to like what is similar and, in a male-dominant environment; it reinforces it and increases it (Knight, 2017). With the tendency to give preference to men over women even if their performance is lower (Reuben et al., 2014),

these biases as it gets more explicit and conscious, may smoothly become gender discrimination, creating barriers for women to enter technology. Finally, the data also implies that the pay gap should be of recruitment concern and it is usually a factor of inequality, given the fact that men tend to be offered higher salaries for the same position. The literature confirms that the pay gap issue may be a significant reason for women to feel discouraged and demotivated, thus avoiding the industry (Sterling et al., 2020).

The data found that the perception of females on recruitment in relation to gender inequality entails a small proportion of its impact in comparison to other deeper roots that may play a wider and consequential role in tackling the issue. Not sufficient and consistent data was found in the literature to corroborate or contradict the information suggested by the data.

5.3. The Gender Equality Impact

The data strongly argue that, although the reality is much better than before and gender equality has been having improvements, the technology industry in Ireland is, in fact, a male-dominated field and suggests that the industry may benefit from having a more diverse team. Similarly, the literature identifies the industry as predominantly male-composed and goes beyond, describing it as a hostile environment to work in (Hewlett and Sherbin, 2014).

Women's different perspectives on problems combined with their particular attention particular and multitasking skills in comparison to men are some of the elements identified by the data as the main aspects contributing to a more creative and innovative environment that the technology industry should consider taking advantage of by fostering gender equality. Indeed, the importance of diversity and multi-gender teams in the technology industry are reflected in practical advantages to the organisations, as not only does it translate to more creativity and more innovation, but also increases companies' profits, according to a McKinsey Global Institute research (Hunt et al., 2018).

5.4. Discussion Summary

In conclusion, the discussion chapter found that there is still a gender gap issue, despite the improvements that have been done and the initiatives from either the companies or recruitment.

The barriers encountered by the female professionals are still the same and their perception might have different angles according to the professional moment of the women assessed.

The results also identified that there is bias in recruitment and it may contribute to the gender gap. However, due to the gender-associated barriers, the impact of recruitment to lessen gender inequality might be limited. In addition, the research acknowledged the importance of mitigating the gender gap as a positive impact to the industry in terms of creativity, innovation and profit.

6. Conclusion and Recommendations

This chapter attempts to conclude the study by summarising the key results and findings of the research taking into consideration the research aims and questions, as well as highlighting the contributions to the field with what was achieved in relation to the existing literature. It will also outline the limitations of the study, endeavour to recommend practical applications and suggest opportunities for further research.

6.1. Results and Contributions

Ultimately, this study aimed to explore the role of recruitment in regard to the issues related to gender inequality in the technology industry in Ireland and understand what actions recruitment can have to help increase the number of females in the field. The key findings of the research, however, indicate that the role of recruitment in tackling the issue might have a less expressive impact in proportion to other factors that were considered to have deeper roots and a more complex process of deconstruction. Nevertheless, improvements in recruitment were also considered to be of extreme importance not to increase or reinforce the deeper roots that strengthen the gender inequality issues in technology.

Further findings show that most of the females working in the technology sector acknowledge that the area is male-dominated and would prefer to have more gender balance. In fact, they attribute the lack of women in technology to a number of deeper roots that go beyond but also include recruitment. The main deeper roots indicated in the research are gender stereotyping, gender discrimination and the lack of representation as the leading barriers that unlock and give rise to further barriers such as the lack of exposure to technology, insufficient incentives that generate a lack of interest and confidence, reflecting on the STEM education disparity.

Moreover, the results displayed from the data that recruitment biases affect the disparity of genders in technology, reinforcing the male-dominant status of the sector. Furthermore, it highlighted the small proportionally of recruitment in terms of expressive impacts on gender balance, once the area is limited to the market supply that already comes after the “deeper roots filter”. Finally, the key findings also called attention to the positive impacts that the technology industry might benefit from by taking initiatives to close the gender gap, highlighting the

diversity of perspectives on problems between females and males and their contribution to creativity, innovation and profit, which are all vital to the technology industry.

This research can contribute to the literature by acknowledging the limitations of recruitment concerning the disparity of gender in the technology industry in Ireland. It also recognises that improvements in recruitment may help reduce that gap, despite the broader and more impactful barriers that can also be perceived as recruitment barriers to attracting females to the industry and contribute to closing the gap. However, a deeper understanding of demographics in sampling data collection might have given the study a more detailed idea of the outcomes of data analysis. Further limitations of the study may concern the researcher's recruitment background in relation to the interpretivist philosophical assumptions of the study, as well as the time constraint that restrained more in-depth examination and budget constraint, limiting the access to further literature content.

6.2. Recommendations

The study suggests key recommendations identified as elements of contribution. They concern about improvements in recruitment that are associated with lack of representation, pay gap, incentives and motivation, and biases in the recruitment process.

Based on the key research findings, in order to ensure the representation of genders, recruitment might benefit from having gender representation during the hiring process, including in the body of interviewers. In addition, special attention to the underpinning reasons for career gaps due to motherhood, for instance, may ensure more opportunities for females. Importantly, offering equitable compensation and work-life integration might assure the females' perception of their value to the industry.

Initiatives such as training and mentoring, as well as creating opportunities for women for skills improvement may also play a key role in the incentives and encouragement females need to enter the technology industry and be motivated about it. Examples of these may infer investing in programs that can bring awareness of technology-related possibilities to young females.

More importantly, the core recommendation that the study identified is in creating forms of reducing gender bias in recruitment. This may be challenging due to the fact that unconscious bias is more difficult to be identified. Widening the recruitment search, considering cultural

backgrounds and valuing skills rather than gender-related assumptions and ensuring transparency in the hiring process may be some of the practical actions that recruitment can take in order to contribute to gender equality. Additionally, appropriate direction for the senior management body on conscious and unconscious bias and sensibility when it comes to adequate female candidates to cultural fit also have the potential to reduce bias in recruitment.

For further research, this study identifies that the literature may benefit from a more in-depth investigation of the cultural background influences on gender inequality or a more profound exploration of how to advance the impact of recruitment on the issue.

To conclude, this study enabled the perception of women specifically to the core factors in gender inequality and found that, although with limited coverage, recruitment may have a number of improvements that the industry can benefit from to help reduce the gender gap in the technology industry in the Irish labour market.

7. Personal Learning Statement

Despite the fact that I already had a decade of experience in human resources, the decision to pursue a master's degree in the Human Resources Management was guided by the need to update skills and become more competitive in the industry.

The course provided upskills in the broad area of Human Resources and gave me confidence to apply a number of concepts in the organisations I currently work or will work.

In fact, the holistic view in terms of how businesses work concerning the field of Human Resources and how it can generate incredible impact from a personal and organisational perspective is satisfying as a recruitment professional.

Lastly, all the learning acquired during the course have supported me in the process of becoming a seasoned, competent and competitive professional for the labour market.

8. Appendices

Appendix 1: Instrument of research – Open-ended questionnaire.

1. What/who made you interested in working in technology?
2. Do you think that the technology industry is a male-dominated field? What would you attribute that to?
3. Do you think there should be more females in the industry? Why?

4. What were/are the main barriers and/or difficulties that you may have faced to enter and stay in the market (previous and current)? To what extent would you say that these barriers and/or difficulties were/are related to gender?
5. Do you think there is a gender bias in the recruitment process for technology positions? What about promotions for leading/management positions? Why?

6. What do you think recruitment could do/change/improve to lessen gender inequality in the technology industry?

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