

University of Essex

Department of Computing

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Literature Review

Topic: What is the gender pay gap in the technology sector in the country of your choice?

Developed Research Question: What are the key factors contributing to the gender pay gap in Norway's technology sector, and how can an in-depth understanding of these factors help inform strategies to mitigate the pay disparity between genders?

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1. Introduction

Norway is a country where gender equality is considered an intrinsic value, with Korsvik (2014) stating that the Norwegian people view the value as equivalent in importance to democracy, freedom of speech, religious tolerance, and so on. However, does this inherent cultural belief that all genders should be treated equally reflect the reality of Norwegian society? This literature review aims to answer the following research question: What are the key factors contributing to the gender pay gap in Norway's technology sector, and how can an in-depth understanding of these factors help inform strategies to mitigate the pay disparity between genders? By investigating the current state of the gender pay gap within the technology sector in Norway, other researchers and policy makers can further research and create future policies that better reflect Norway's commitment to gender equality.

Despite Norway being thought of as one of the forefront countries on gender equality, in a report called "Gender and Pay" by the Norwegian Government Administration Service, it was shown that Norway has "one of the most gender-segregated labour markets in the industrialized world." (2008). This is further shown when observing data from the International Labour Organization (2019a), where women only make up 29% of the information and communication sector in Norway, and the pay gap is 14%. While there is existing literature showing the gender pay gap exists, there is a gap in the existing research that explains the reason for wage inequalities between men and women performing work of equal value. This review will investigate the current knowledge and main factors contributing to the gender pay gap, then evaluate the

current literature's strengths, weaknesses, and gaps, and then address the implications for future policies and future research directions.

2. Current Knowledge and Main Factors Contributing to the Gender Pay Gap

While there is a lack of literature that focuses on the gender pay gap within the technology sector in Norway, there is an abundance of literature on the gender pay gap in general. Most studies available provide general insights into wage disparities across all industries, and not just technology. However, the findings within the literature can be extrapolated to understand the specific challenges faced by women within the technology sector.

One of the major factors contributing to the gender pay gap is occupational segregation. This term refers to the distribution of men and women across different sectors, jobs, and roles. According to Hill et al. (2010), only 20% of those who earn bachelor's degrees within STEM subjects are women. This number declines even further at the graduate level. However, while fewer women work within technology, there are still women that work in tech with the same level of education as their male peers. Wouldn't those women end up with equally well-paying careers? This is where occupational segregation comes into play. When women do make it into the technology sector, they tend to be allocated to the less well-paid occupations, such as how women in ICT are more likely to be relegated to ICT management rather than ICT software development (International Labour Organization, 2019b). Despite Norway's beliefs in gender equality, the country also struggles with occupational segregation. Within Norway, the average monthly earnings in 2023 for a woman in information and communication was 67,730NOK, while for a man it was 76,450NOK (Statistics Norway,

2024). Even when women do make it past the first step of occupational segregation and end up with a job in tech, they are commonly delegated to lower paying roles within organizations.

Another contributing factor to the gender pay gap is career interruptions. The “motherhood penalty” is a commonly known phenomenon where women who take time off for childbearing often experience slower career growth, lower salary, and other penalties that men or women that do not have children do not experience. Norway, like most Scandinavian countries, has a very generous parental leave policy, with parents being entitled to taking an entire 12 months of leave. However, 12 of the weeks before the birth and 6 of the weeks after can only be taken by the mother (arbeidstilsynet, n.d.). Kleven, Landais, and Søgaaard (2019), who are researchers from Denmark, a Nordic country with similar parental policies to Norway, argue that having children has a drastic effect on the careers of women, while men do not experience the same amount of career interruption. They further state that “almost all of the remaining gender inequality can be attributed to children.”.

Furthermore, gender stereotypes and implicit bias continue to play a role in pay disparities. Blau and Kahn (2017) note that women are more risk averse than men, which could result in them not fighting for their right to a promotion, lowering their relative wages. Bishu and Alkadry (2016) mention something similar, noting that women are less likely to negotiate their salaries, and are even penalized for attempting to do so. The implicit bias that women are less assertive and are less suited for high-pressure roles contributes to their underrepresentation in leadership and high-paying positions, resulting in a lack of women getting promoted to the highest paying jobs within the

technology sector. Furthermore, workplace cultures in tech tend to favor masculine traits, leading to companies creating environments where women's contributions are undervalued, resulting in lower salaries compared to their male counterparts.

3. Evaluation of Literature

The existing literature on gender pay gaps in general provide valuable insights into the major factors that contribute to income inequality in Norway's technology sector. One of the major strengths of the research is the amount of comprehensive national data. Quantitative data from sources such as Statistics Norway and the International Labour Organization allow for studies to thoroughly analyze the salary differences between genders across various industries such as technology.

Norway's policy context also adds depth to the existing literature. Norway has implemented several gender equality policies which help provide context in which to study the effects of legal interventions on the gender pay gap. Trond et al. (2014) note that the wage penalties in the US for having children are substantial, with women being penalized up to 15%-20% of their salary when they have two or more children. However, these numbers drop to 2%-10% in Scandinavia. Studies like this show how understanding the major factors that contribute to gender wage disparity can result in policies that have some success in narrowing the gap. By studying the effects of legal interventions on the gender pay gap, future interventions may be more successful. By furthering research into the technology sector in particular, better policies that can directly target the occupational segregation, implicit bias, and career interruptions that contribute to the pay gap for women in tech can be devised.

While the existing literature has many strengths, one of the limitations of the research is the lack of qualitative research. The lack of qualitative research limits the depth of understanding of what the organizational culture is like within the technology sector, and what day-to-day challenges women face in tech companies. Why do women have a quit rate that is twice as high for women than it is for men (Hewlett et al., 2008)? Are women feeling forced to accept allocations to lower paying jobs due to peer or organizational pressure? Research within this area could provide insights into the subtle forms of bias and discrimination that contribute to the wage gap that may not always be obvious when analyzing numerical data alone.

Finally, there is a scarcity of research that focuses specifically on the technology sector. While studies on the gender pay gap in Norway provide valuable insights, the tech industry is a unique sector with many characteristics that set it apart from other sectors. Women may have challenges within the sector that they may not have in others, due to its male-dominated culture and fast-paced nature. In addition to the lack of research on wage disparity within the technology sector, there are no national statistics or indicators for wage differences between women and men performing work of equal value as of today. While there is an ongoing project by the Norwegian Institute for Social Research (2024) looking to fill the gap in the existing research, having a better understanding of why wage disparities exist when men and women perform “work of equal value” is essential when attempting to compare and contrast salaries in the tech industry.

4. Implications and Future Research Directions

The literature shows that these are the contributing factors to the gender pay gap in the technology sector: occupational segregation, career interruptions, implicit bias, and gender stereotyping. When considering occupational segregation as a major factor in wage disparity, the quantitative data that can be found in the existing literature is of little help. While the robust national databanks may make it easy to determine the percentage of women within the technology sector and their current pay, what kinds of roles women are in specifically is harder to determine. In the future, more research should be done in determining whether women are being placed into satisfactory roles within tech that allow for room for career growth, as well as the roles that pay higher, and why they are or are not getting those opportunities.

Another of the contributing factors is career interruptions, with this review focusing on the “motherhood penalty”. While the Scandinavian countries have done well in mitigating the penalty, it still exists and penalizes women who decide to have children while men suffer no penalty to their wages. Perhaps future research should be done on the efficiency of policies that incentivize fathers to take a greater share of parental leave. While Norway does have leave available that is specifically for fathers, it may be that within tech this is not as common for men to take.

Implicit bias and gender stereotyping are the other identified major contributing factors to the gender pay gap within the technology sector. As technology is a male-dominated industry, women may struggle with a company culture that may alienate women and discourage them from pursuing a long-term career in the sector. Future research should focus on understanding what about the technology sector causes women to have an average lower retention in STEM jobs than in a non-STEM job

(Ashcraft et al., 2016). In addition, the effectiveness of diversity, equity, and inclusion initiatives should be studied in order to create better policies that ensure women are feel valued and appreciated within their workspaces and ensure that they are evaluated on equal footing with men during recruitment, promotion, and other processes.

5. Conclusion

To conclude, the gender pay gap in Norway's technology sector is the result of occupational segregation, career interruptions, implicit bias, and gender stereotypes. While Norway has a culture of ensuring gender equality and has made steps towards introducing policies that ensure they are ahead of many other countries in some regards, the tech industry still displays a large gap in pay between the genders. While the existing literature shines some light on the current state of the gender pay gap and its major contributing factors, more qualitative research should be done, as well as research that focuses on the technology sector and equal work. To reduce the pay gap in the technology sector, future research should focus on understanding what drives women to quit working within the technology industry, and policymakers should use this future research to create more comfortable and inclusive workspaces for women in technology.

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