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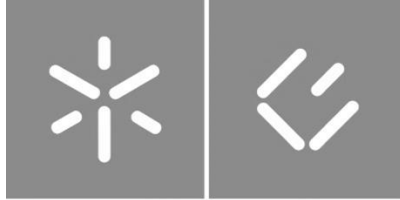
Gender Equality in the Construction
Industry: A Case Study of Grupo Casais

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**GENDER EQUALITY IN THE CONSTRUCTION
INDUSTRY: A CASE STUDY OF GRUPO
CASAIS**

Internship Report

Master in Business and Management

Work conducted under the guidance of

Professor Dr. Maria Emília Pereira Fernandes

November of 2023

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As I complete another chapter of my life, I would like to express my gratitude to everyone who has been part of this journey.

To my grandfather Rogério, who was always proud of me and helped me get here.

To my brother for his unconditional support.

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“There are people who believe that we do not need feminism today, but nothing could be further from the truth. Women have struggled for equality and against oppression for centuries, and although some battles have been partly won - such as the right to vote and equal access to education – women are still disproportionately affected by all forms of violence and by discrimination in every aspect of life.”

Council of Europe

DECLARATION OF INTEGRITY

I declare that I have acted with integrity in the preparation of this academic work, and I confirm that I have not resorted to plagiarism or any form of improper use or falsification of information or results in any of the stages leading to its preparation.

I further declare that I have known and respected the Code of Ethical Conduct of the University of Minho.

EXECUTIVE SUMMARY

Gender equality in the construction industry is a relevant topic since the sector has historically been male-dominated, and women have, through the years, experienced gender discrimination in this field of work, impediments to the development of their professional careers, and as a consequence, a lack of representation of female leadership in higher positions within construction companies. This project looks at Grupo Casais, a construction firm in Portugal, and the experiences of their female engineers working in the construction industry. For this purpose, a qualitative study using semi-structured interviews was carried out as a method of collecting information. The interviews were conducted with female engineers from Grupo Casais of varying age groups and career years.

The purpose of this project was to understand and identify the experiences of these women within this particular company. What are their perceptions on issues of gender, practices, and gender equality policies adopted by Grupo Casais?

According to the results of the study and the perceptions of the female engineers interviewed, Grupo Casais has made a clear commitment to gender equality and has adopted different steps to boost the participation of women in civil engineering, such as inclusive recruiting efforts and advancement possibilities for women.

However, the research noted areas for development, such as the need for additional statistics (since it is of significant importance to have gender profile indicators) on the number of women in the workforce and the need to boost the representation of women in leadership roles, and consequently having policies that abed that promotion.

This project also unravels the good practices of the organization, which has a culture of tolerance and respect for equality, as well as a culture that prevents gender discrimination. Overall, the study emphasizes the significance of a diversified strategy for fostering gender equality in the construction sector, as well as the possibility for construction businesses to make substantial progress in this area. In this sense, some measures are proposed so that Grupo Casais can develop practices and policies that can combat gender inequality.

Keywords: Gender Equality; Discrimination; Grupo Casais; Civil Engineer; Construction Industry; Male-Dominated

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1. INTRODUCTION

Gender equality has arisen as a critical issue in today's workplaces, to build fair and inclusive environments that provide equal opportunity to everyone. While other industries have seen improvement, achieving gender parity in the construction industry remains a significant challenge (Powell, Bagilhole, and Dainty, 2009). The historically male-dominated construction industry has seen limited female presence and advancement, resulting in a significant gender imbalance in the workforce (Opoku and Williams, 2019).

Women in the construction industry have continually faced a variety of issues and constraints that have hampered their professional advancement and success throughout the years. One of the most significant obstacles is the presence of gender stereotypes and prejudices that reinforce the idea that construction labor is better suited to men (Francis and Prosser, 2014). These beliefs promote a hostile environment for women, resulting in the marginalization and underrepresentation of qualified female professionals.

Furthermore, women in this field confront several obstacles to progress. Glass ceilings, invisible barriers that prevent women from moving to higher-level employment, limit women's opportunities for professional development and achievement (Saleem, Rafiq, and Yusaf, 2017). The lack of female leadership roles exacerbates the situation by limiting the number of female role models and mentors available to provide advice and help.

This project focuses on Grupo Casais, a prominent construction group in Portugal, to examine the experiences of female engineers working in the company. By exploring their perspectives, this project aims to gain valuable insights into gender-related issues, prevailing practices, and the effectiveness of gender equality policies implemented by Grupo Casais. The primary objective of this project is to understand and identify the specific challenges and opportunities faced by women in the construction industry, as perceived by the female engineers at Grupo Casais. This study seeks to evaluate the gender equality policies and practices in place at the company, shed light on their effectiveness, and identify areas for improvement.

The findings of this research highlight Grupo Casais commitment to promoting gender equality and fostering a more inclusive environment. The company has implemented several initiatives to encourage the participation and advancement of women in civil engineering, such as inclusive recruitment strategies and opportunities for career progression. However, it is important to note that there are areas where further progress is needed. For instance, there is a call for more comprehensive statistical data on the representation of women in the workforce

and the need to enhance the presence of women in leadership roles. This requires the formulation and implementation of policies that actively support the promotion and advancement of women within the organization.

Additionally, this project uncovers positive practices within Grupo Casais, including a culture of tolerance, respect for equality, and proactive measures to prevent gender discrimination. By highlighting these practices, this study emphasizes the importance of a comprehensive approach to fostering gender equality in the construction sector and provides insights that can contribute to the industry as a whole.

This study's literature review is based on current research on gender discrimination, the 'male' culture in the construction industry, and management for gender diversity. Gender stereotypes, unconscious discrimination, glass ceilings, and inclusive leadership will be discussed to understand the complexities of achieving gender equality in a historically male-dominated organization.

In terms of methodology, to accomplish this, a qualitative research approach was adopted, using semi-structured interviews as the primary data collection method. Female engineers from various age groups and career stages within Grupo Casais were selected as participants, enabling a comprehensive understanding of their experiences within the organization and a more broad viewpoint into the different stages of their professional experiences.

This study is especially relevant given the rising awareness of the benefits of gender diversity in the construction industry. Various studies have indicated that diverse workforces promote innovation, productivity, and overall organizational effectiveness (Cletus, Mahmood, Umar, and Ibrahim, 2018).

In conclusion, this project not only provides valuable insights into the experiences of female engineers within Grupo Casais but also offers recommendations and measures to promote gender equality within the company. By implementing these measures, Grupo Casais can further strengthen its commitment to gender equality, foster a more inclusive work environment, and facilitate the professional growth and representation of women in the construction industry.

2. LITERATURE REVIEW

In this section, to lay the groundwork for the main concepts examined in this study, I'm going to provide a concise literature review on gender discrimination, male culture, and management for gender diversity, all of which are within the world of the construction industry.

2.1 Gender Discrimination In The Construction Industry

A lot of studies on gender discrimination have been done through the years, as it persists today as a problem for women in the construction industry, continuing a long-standing underrepresentation of the female engineer. Several studies have shed light on the restrictions and problems that women experience in this male-dominated industry. The purpose of this literature review is to give a summary of major results and insights from existing research on gender discrimination in the construction sector.

Studies have repeatedly shown that there are gender discrepancies in the construction industry. The gender gap in the industry is still existent, as noted by Naoum, Harris, Rizzuto, and Egbu (2020), who also point out that women are still disproportionately underrepresented. This underrepresentation is attributed to a number of factors, including cultural norms, historical biases, and societal stereotypes that have shaped the construction industry as a predominately male field. As we'll see in a moment, this underrepresentation is also a result of the male subcultures that have developed within the sector that segregate women.

In this sense, several studies, like Fielden, Davidson, Gale, and Davey (2000), contend that gender stereotypes play a part in the concentration of women in particular occupations within the construction sector, such as administrative or office-based jobs, as opposed to technical or leadership ones. This restricts the job alternatives available to women and upholds the stereotype that construction work is best suited for men, thereby discouraging women from following this type of career (Francis and Prosser, 2014). Women's possibilities for career progression and development are limited by this gendered occupational segmentation.

In addition to affecting individual experiences, gender discrimination also has an impact on organizational and financial performance. Walker, Corrington, Hebl, and King (2022) emphasize how gender discrimination undermines performance across the board in the construction industry, including productivity and innovation. The sector misses out on a variety

of viewpoints, abilities, and skills that are crucial for innovation and development by excluding and restricting the contributions of women (Menches and Abraham, 2007).

The unpleasant work environments created by discrimination, harassment, and behaviors of exclusion have a detrimental influence on the job satisfaction, wellbeing, and retention of female employees. According to Kozan, Gutowski, and Blustein (2020), prejudice has a negative impact on women's career paths and causes them to leave their jobs more frequently and be less dedicated to their fields. It is important to address these concerns if you want to promote an inclusive and encouraging workplace atmosphere.

Gender discrimination in this industry is also exacerbated by structural barriers, biased hiring and promotion procedures, and a lack of work-life balance (Naoum, Harris, Rizzuto, and Egbu, 2020). It is mentioned by Naoum, Harris, Rizzuto, and Egbu that women show higher levels of work-life conflict in comparison to men due to the inflexible working hours that often lead to problems regarding their work-life balance. Women's options for jobs in the construction industry are further constrained by the absence of support for work-life balance, including family-friendly rules.

A male-dominated culture that, despite the years, still remains, according to Galea, Powell, Loosemore, and Chappell (2020), perpetuates gender inequality. Biased hiring and promotion procedures put roadblocks in the way of women's professional success by hindering their growth and advancement and the '*continued dominance of a culture which emphasizes long hours and 'presenteeism'*' (Galea, Powell, Loosemore, and Chappell, 2020).

In conclusion, gender discrimination is still a problem in the construction industry (Walker, Corrington, Hebl, and King, 2022), showing itself in a variety of ways such as occupational segregation, prejudiced behaviors, and unpleasant work conditions. The introduction of work-life balance rules, adjustments to corporate culture, hiring procedures, and promotion procedures are all necessary to address these issues. The construction sector may maximize its workforce's potential and provide a more welcoming and equitable workplace for everyone by advocating for gender equality.

2.2 The 'Male' Culture In The Construction Industry

The construction industry has long been characterized by a predominant male culture (Amaratunga, Haigh, Shanmugam, Lee, and Elvitigala, 2006), where the majority of workers, leaders, and decision-makers are men. This male-dominated culture has shaped the norms, values, and behaviors within the industry, influencing how work is done and how individuals interact with each other.

Due to its historically male culture, the construction industry still maintains certain characteristics and behaviors that are emphasized and valued as a man's job'. Construction labor was, and continues to be, traditionally a physically difficult job that favored men (Naoum, Harris, Rizzuto, and Egbu, 2020).

Men frequently hold positions of leadership and influence within the sector, and hierarchical systems and conventional gender roles are prevalent (Baker and French, 2018). So, for women looking to enter the business or advance in their careers, the construction industry's masculine culture might pose some difficulties. Women often experience preconceptions, stereotypes, and gender biases that restrict their possibilities for advancement and recognition in the workplace (Baker and French, 2018). In contexts where men predominate at work, they could also encounter marginalization and a lack of support from management.

This frequently results in the segregation of women inside the company, which causes their underrepresentation and very few opportunities within certain roles and sectors inside the company.

There are many ways in which this segregation can happen; for instance, according to Naoum, Harris, Rizzuto, and Egbu (2020), some positions and vocations in the construction industry are historically perceived as more acceptable or suitable for men, while others are seen as more suitable for women. This 'occupational' segregation reduces the options open to women and perpetuates gender stereotypes.

Also, looking at the labor division, men are often assigned to duties that are more skilled or technical on-site, whereas women may be given administrative or support responsibilities more in the back office (Francis and Prosser, 2014). This shows that there is a lack of variety and opportunity for women to show their talents and abilities as a result of this separation, which also promotes the assumption that some activities are better suited for men.

In addition to this, the underrepresentation of women in positions of authority and decision-making contributes to their continued isolation within the industry (Amaratunga, Haigh, Shanmugam, Lee, and Elvitigala, 2006). Women may have their viewpoints and experiences

ignored, and gender-specific requirements may not be taken into account in decision-making processes when they are underrepresented in leadership roles. According to Baker and French (2018), women are often not included in opportunities for work or promotion, giving them fewer opportunities to influence and reshape the organizational culture in order to make it more inclusive and egalitarian.

Nevertheless, it is important to remember that the construction sector is changing and that initiatives are being taken to advance gender equality, diversity, and inclusiveness. There are a lot of studies, such as the study of Wright and Conley (2018) on *Advancing gender equality in the construction sector through public procurement*, that provide a description of the extent of women's underrepresentation in the construction industry, along with a brief analysis of the causes and some strategies for boosting recruitment. This goes to show that companies are realizing how critical it is to promote an inclusive culture that recognizes and promotes the contributions of all people, regardless of gender.

2.3 Management For Gender Diversity In The Construction Industry

Management plays a crucial role in promoting and achieving gender equality within organizations, including the construction industry. So, having an inclusive workplace where diversity is valued increases organizational performance, creativity, and project outcomes. In a study by Suharnomo (2017), this view is supported, and as he says, '*diversity provides many benefits to an organization in several ways*', then proceeds to mention six ways in which diversity helps stimulate business. Suharnomo mentions that by having a diverse workplace, recruitment gets easier as the supply of potential applicants gets bigger. It also encourages individual performance, which increases productivity and job satisfaction, and by increasing job satisfaction, the quality of interactions between peers also improves. Also, as said by Suharnomo, a diversified workforce opens up new networks and increases resource availability; it also brings more cultural sensitivity between the staff and customers, which can improve the customer experience and satisfaction; and lastly, diversity fosters creativity and innovation at the group level.

Regarding gender diversity in particular, an interesting finding from research made by Ly-Le (2022) shows that in an experimental task that was designed as a male-oriented task, the all-male groups did not do as well as those that included female members, and as he mentions, '*In a male-dominated industry such as technology, female inclusion can bring in fresh ideas,*

enhance collective intelligence, and result in better creativity'. Still looking at the study made by Ly-Le, he also mentioned that in research where the perceptions and ratings of more than 7,000 leaders at high-performing firms were studied, it was concluded that when it comes to most leadership traits, such as taking the initiative, being resilient, pursuing self-improvement, and acting with integrity and honesty, women outperform men.

That being said, according to some studies, such as Acosta, Lautenberger, Castillo-Page, and Skorton (2020) and Karakhan, Gambatese, Simmons, and Al-Bayati (2021), here are some key aspects of management for gender diversity.

Acosta, Lautenberger, Castillo-Page, and Skorton (2020) argue that it has been demonstrated time and time again that leadership plays a significant role in attaining equality, diversity, and inclusion within institutions. Management should demonstrate a strong commitment to gender equality by setting a clear vision, values, and goals for promoting gender equality within the organization. Karakhan, Gambatese, Simmons, and Al-Bayati (2021) also mention the need for a *'corporate statement and policy on diversity and inclusion'*. For that, and to encourage initiatives linked to diversity and incorporate gender equality measures into performance assessments to hold individuals at all levels responsible, managers should establish explicit rewards and incentives. This can include emphasizing effective mentoring and sponsorship, targeted outreach to and recruitment of women and other underrepresented groups, proven equity-based search committee procedures, and established trends in fair hiring practices and promotions that welcome women from all backgrounds and identities.

Equal compensation and benefits are frequently mentioned in both studies as one of the most important aspects of gender equality. To find and close any gender pay discrepancies in the company, management should regularly undertake pay equity audits. For their talents, abilities, and expertise, women should be compensated and given the same advantages as men.

Another important aspect mentioned by Acosta, Lautenberger, Castillo-Page, and Skorton (2020) is that management should set up accountability processes to keep track of the results and progress made in the area of gender equality and create formal rewards and incentives for efforts related to diversity. It is possible to find areas for development and make sure that activities to promote gender equality are having a real impact by regularly assessing and measuring gender diversity indicators. and create formal rewards and incentives for efforts related to diversity.

Since their own conduct sends strong messages about organizational standards, leaders should also make an effort to personally model the kind of respect and inclusion they demand of all members of their company. This means establishing and upholding a work climate that

recognizes, appreciates, and practices intersectionality without abusing it with criticism or retaliation (Acosta, Lautenberger, Castillo-Page, and Skorton, 2020).

By using these management strategies, businesses may advance gender equality, foster a more welcoming workplace, and capitalize on the talents, ideas, and views of a diverse workforce (Suharnomo, 2017).

3. SETTING THE CONTEXT: GENDER EQUALITY POLICIES IN PORTUGAL

3.1.1 Gender Equality Policies in Portugal

In recent years, gender equality policies in Portugal have made tremendous progress in promoting equal opportunities and rights for all genders (Casaca, Marques, Guedes, and Seierstad, 2022). In collaboration with numerous groups and institutions such as CIG (Comissão para a Cidadania e a Igualdade de Género, or Commission for Citizenship and Gender Equality) and CITE (Comissão para a Igualdade no Trabalho e Emprego, or Commission for Equality in Work and Employment), the Portuguese government has established a number of policies and programs to reduce gender imbalances and promote a more inclusive society.

Overall, the Portuguese legal framework offers a good foundation for fostering gender equality in businesses; nevertheless, it is crucial to highlight that rules and regulations alone may not be sufficient to achieve gender equality.

It is important to note that gender policies are extensive not only in the work context but also in the private context, and due to the fact that the problems and obstacles relating to gender equality might differ greatly in these two sectors, it is crucial to distinguish between the laws governing it in the workplace and the private sphere. Since this project is focused on gender equality in the workplace, policies regarding the private sector will not be discussed. That being said, the following policies regard legislation on discrimination, gender mainstreaming, work-life measures, and gender quotas.

Regarding the legislation, the Portuguese Constitution prohibits gender-based discrimination and guarantees equal rights and opportunities for all individuals. The Labor Code (*Código do Trabalho; articles 23 to 32*) explicitly prohibits gender-based discrimination in the workplace, and the Law on Equality and Non-Discrimination (*Lei da Igualdade e Não Discriminação; Law n.o. 3/2011, on February 15*) provides a legal framework for fighting gender inequality. In connection with gender mainstreaming, which is an approach to improving the quality of public policies, programs, and projects while ensuring more effective resource allocation, the National Strategy for Equality and Non-Discrimination 2018–2030 (*Resolution of the Council of Ministers No. 61/2018, of May 21*) incorporates gender mainstreaming principles into all policies and actions.

Work-life balance being one of the biggest challenges for women in the workforce, parental leave policies aim to promote work-life balance and encourage the sharing of caregiving responsibilities between parents (*Labor Code, Law No. 120/2015, of September 1*). In Portugal, both the mother and the father are entitled to parental leave following the birth or adoption of a child. Social Security provides coverage for parental leave, which makes up for lost wages while the parents are away from the workplace. Parental leave can come in two forms: initial and extended parental leave. The required and exclusive periods for both the mother and the father are included in the first period, which can last up to 150 days. An additional three months are included in extended parental leave.

Now, regarding female representation within companies, gender quotas are policies or initiatives undertaken by organizations or governments to improve the representation and involvement of women in underrepresented areas. These quotas establish explicit objectives or percentages for women's representation in positions of authority, leadership, or decision-making. On August 1, 2017, *Law No. 62 (2017)* went into effect, establishing gender quotas to ensure equal representation of men and women on public sector boards of directors and supervisory bodies. Also, in connection with organizations, the Portuguese Securities Code (*Código dos Valores Mobiliários*) encourages listed companies to adopt gender quotas for corporate boards.

Lastly, Portugal has been attempting to reduce the wage difference between men and women. In order to guarantee that men and women are paid equally for accomplishing comparable or identical jobs, the idea of equal pay for equal effort or work of equal value is codified in legislation. *Law No. 60/2018*, of August 21, approves measures to promote equal pay between women and men for equal work or work of equal value.

4. METHODOLOGY

The methodology adopted in research work is a fundamental step since it dictates the strict rules and procedures that must be followed so that the final data is scientifically valid and reliable (Yin, 2012). Thereupon, this section will be separated into three parts: the framework of the company under investigation, the objectives and design of the inquiry, and finally, the data-gathering techniques and processes.

4.1 COMPANY FRAMEWORK

In this section, I will present a brief description of the company where this project was based. This information was obtained through the company's website and through the 4-month internship that I experienced in the company's human resources department.

Grupo Casais, based in Braga, is one of the largest companies in the construction sector in Portugal. It does business in areas as diverse as Engineering, Commerce, Industry, Tourism, Real Estate, the Environment, Energy, and Services. The group has around 5,000 employees, and its turnover amounts to 514 million euros. This organization can carry out construction from the beginning to the end but is specialized in formwork, foundations, structures, and slabs.

Grupo Casais was founded on May 23, 1958. The company was named António Fernandes da Silva & Irmãos, Lda, having changed its name in 1991 to Empreiteiros Casais de António Fernandes da Silva SA, in honor of the family nickname. Finally, in 2008, after completing 50 years of activity, the company changed its name to its current name, Casais Engenharia e Construção, S.A., based on a culture of excellence and sustainability and a vision of "being a reference of knowledge and solidity in the area of Engineering and Construction.". The organization's values include knowledge, cooperation, dedication, determination, flexibility, humanism, integrity, and rigor. This Portuguese company has a consolidated presence both in the domestic and foreign markets. Currently, the company has operations in 17 countries, having started the internationalization process in Germany in 1994.

Grupo Casais positions itself as an engineering and innovation company that seeks the most efficient and ecological construction solutions; therefore, the company makes significant R&D investments (research and development). This quest for innovation has already earned the Group Casais several awards, from engineering and construction awards to ecology and sustainability awards, as well as awards for its internationalization processes. At the latest,

Grupo Casais was also nominated for the Portuguese Human Resources Awards of 2023 in the category of Academies.

Grupo Casais has a well-structured human resources department divided into three teams: the Academy, Training, and Recruitment. All the teams work towards improving and maximizing the potential of the employees and the company, whether it is in organizing training courses to keep the workers updated on the ever-evolving nature of the construction industry, improving the well-being of the employees by creating ways in which they feel more incentivized to accomplish their objectives, or also recruiting capable and motivated people to integrate the company according to its needs. The recruitment team also has a small project called Blumind dedicated to students and college graduates, which gives opportunities for internships in the many departments of the company. Also, Grupo Casais has a program called Arte e Engenho, which gives an opportunity for an internship to 10 candidates to join the company for 1 year, where 6 of those months the trainee is sent abroad to one of the many locations of Grupo Casais so that he can work, learn, and comprehend the diverse culture of the group.

Grupo Casais, as mentioned, has approximately 6,000 employees, with 90% being men and 10% women. This percentage might seem extremely unbalanced, but the reality is that depending on the departments and professions, this percentage varies tremendously. In the construction industry, which is mainly dominated by men, women tend to occupy back-office positions (Gale, 1994), and that can also be seen in Grupo Casais. The majority of the female representation lies in the human resources, legal, and economic departments. When it comes to a more hands-on job like civil engineering, that representation drops tremendously. The number of women engineers in comparison to the number of male engineers is lower, so that being said, the male presence on site is heavier. In the words of Parmar, Shukla, Shah, and Vanol, '*Women are able and suitable for the fieldwork as civil engineers*' (Parmar, Shukla, Shah, and Vanol, 2014), so why is there so little representation in the field?

4.2 RESEARCH OBJECTIVES AND SAMPLE SELECTION

Studies in the areas of gender equality in the construction industry have been a target of attention, so it is possible to find several adaptations and approaches to this type of study (such as Luísa Saavedra, Alexandra M. Araújo, Maria do Céu Taveira, and Cristina C. Vieira, 2014;

Wendy Bastalich, Suzanne Franzway, Judith Gill, Julie Mills, and Rhonda Sharp, 2007; Powell, A., Bagilhole, B., and Dainty, A., 2009). This study will follow a similar theoretical framework as Watts (2003), which allows for a better understanding of the concept of ‘barriers’ and how knowing this concept will help guide which questions should be asked in the interview script. Defining the starting question is a critical stage since it determines the investigation's purpose and ambition, not merely the sort of approach to be utilized (Yin, 1994). The question must be coherent in the sense that it must portray the problem objectively, without ambiguity; it must be feasible in the sense that the research has a true nature and an aim that can be experimentally evaluated; and it must have value and practical applicability. In light of that, the following are the research questions that guide this study:

- What are the experiences of women civil engineers working in a male-dominated industry?
- What has changed in the field, and what might specifically enhance the profession for women?

Using the works of Watts (2003) as somewhat of a guide for this study, some objectives have emerged. Such as:

- i) Comprehend the changing situation of women in the industry from the perspective of women themselves, with a focus on problems that may hamper their advancement and the challenges that women experience as professional civil engineers in a male-dominated field;
- ii) Discover how women see their position in this line of work, focusing on critical themes such as professional advancement, workplace culture, their role in management, and the interaction between professional and non-work, or social, responsibilities;

Since this study was developed within the scope of a curricular internship, in which it was intended to explore and find answers to a problem or need of a specific company, this investigation adopts a case study approach. Given the exploratory nature of our research and its ultimate goal, a qualitative research method was most appropriate in this study (Yin, 2003).

This study has the participation of female engineers from Grupo Casais. This is a non-probabilistic sample selected through my contact with the human resources professionals who provided me with the contact details of the participants.

4.3 DATA-GATHERING METHODS AND DATA ANALYSIS PROCEDURES

The qualitative methodology is understood to be the most appropriate for this type of investigation and is associated with a more descriptive and exploratory approach. The theoretical saturation will determine the sample size, which can only be determined during the data-gathering procedure (Thomson, S. B., 2010).

The data collection techniques used in this study are in real and natural contexts, where the active participation of the researcher is sometimes included. It is critical to assess and reflect on how I, as a researcher, behave during the data-collecting process, as well as how research might be changed to fit the participants' requirements and social conditions (Koro-Ljungberg, M., Bussing, R., Williamson, P., & M'Cormack-Hale, F., 2008).

As a method of data collection, in-depth interviews will be conducted. These will be of the semi-structured type, accompanied by a script (table 1), but with the possibility of deepening new ideas explained by the interviewees. This interview technique was chosen for its exploratory nature, where there is the possibility of obtaining detailed and in-depth descriptions of the interviewees' experiences and opinions (T. Nguyen et al., 2015).

These interviews, conducted via the Microsoft Teams video conferencing platform, had an average duration of 20 minutes. The interviews were recorded and later transcribed. The main advantage of in-depth interviews is that they can provide much more detailed information compared to other data collection methods and can also create a more relaxed environment for gathering information (T. Nguyen et al., 2015). Although only eleven interviews were conducted within the company, interactions and information exchanges were carried out throughout my four-month internship experience.

Additionally, I also consider my personal experience in this context, as I interned within the company. This experience gave me access and allowed me to observe people's interactions and the spaces where they worked, which, in turn, helped me analyze the results.

In regard to the data analysis, an iterative qualitative data analysis will be used during the analysis of the collected interviews (SJ Tracy, 2018) so that it allows for a better visualization of the emerging patterns, categories, and dimensions. Iterative analysis is a procedure in which the researcher traverses the data in order to discover, compare, and validate

the patterns, ideas, categories, features, and dimensions of the phenomenon (Thomson, S. B., 2010).

Below are two summary tables: the first one refers to the interview script (see Table 1) and the second one to the participant's profile (see Table 2).

Table 1: interview questions

Purpose of the Investigation	Discussion Issues	Questions
Investigate the limitations or challenges that women engineers encounter as professionals	General route	How many years have you been an engineer?
		Why did you choose this area of study?
		How has your experience been like working in the construction industry?
		So far, what difficulties have you had on your professional path?
		Would you like to have done something different in your professional career?
	Role and Career at Casais	How long have you been at Grupo Casais?
		What is your role in the company?
		Why did you choose to work for Grupo Casais?
		Do you feel that the company gives you opportunities to grow professionally?
	The impact of gender on the function and career of civil engineering in Grupo Casais	Did you feel that there was any kind of discrimination in the selection process?
		From your point of view, why are there so few women working as civil engineers?
		Do you feel that you have ever been discriminated against because you are a woman in this area?
		Has being a woman made your career different in any way as a compared to men's?
		Do you know any female engineers who have suffered discrimination in the area, because they are women?
		Do you believe there are any obstacles to achieving gender

in a male-dominated industry		equality in civil construction?	
		In your opinion, what can be done to promote more women in engineering?	
	Peer Relations		How is your relationship with your colleagues?
			Do you feel you've had the same kind of opportunities as your peers?
	Gender Practices and Policies in Grupo Casais		Have you ever participated in promoting gender equality in the workplace?
			Of all the companies in this line of work where you've worked, in any way did organizational practices promote male environments, or on the contrary, did they contradict?
			Did these companies have a policy against gender discrimination?
			Have you noticed any changes in the industry regarding gender equality in recent years?
			In your opinion, how do you believe the construction industry can work to promote gender equality?

5. PARTICIPANTS PROFILE

To establish the context of the findings of the research, it is necessary to situate the participants in terms of their professional backgrounds. A general summary of the interviewees follows to establish an overall picture of the group.

Table 2: Demographic characteristics of sample

	Years Worked in Construction	Job Description	Family Situation
P1	18	Director Position	Is a mother
P2	14	Director Position	Is a mother
P3	25	Management Role	Is a mother
P4	1	Consultant	Is not a mother
P5	8	Management Role	Is not a mother
P6	7	Technician	Is not a mother
P7	7	Management Role	Is not a mother
P8	3	Management Role	Is not a mother
P9	0	Trainee	Is not a mother
P10	22	Director Position	Is a mother
P11	20	Technician	Is a mother

Eleven female engineers contributed to the study; Table 2 above shows the distribution of their years of professional experience, which ranged from 1 to 25 years. This allows for a better understanding of the different stages of a professional career.

Some of the women in the company held director positions, while others held managerial positions. The majority of the participants are in managerial roles; there are three female directors; three of the participants hold technical roles; one is an ESG consultant; and one is still a trainee. Regarding their family situation, five of the participants are mothers, while six of them do not have children.

Certainly, there are more ways to organize the information than how I have decided to categorize the biographies, and new ways of arranging the information might result. It is impossible to summarize the women's history in more detail; therefore, for this project, I have focused on comprehending what seemed to be the most important elements of their testimonies. Despite the diversity of the experiences, two similar threads can be seen in all of them: a passion for their professional roles as well as an understanding that improving work standards will benefit the whole sector, not just women.

6. RESULTS

In this section, the results that were obtained from the interviews carried out with the female civil engineers of Grupo Casais will be shown. Due to a shortage of time, only 11 interviews were conducted.

6.1 General Route

In this topic, the questions were directed to the reasoning behind choosing engineering as a career, the consequences of this professional path, and what their experience as an engineer has been like.

In all the interviews, when asked why they chose engineering as their professional career, the answers followed a very similar pattern. Some mentioned that they had a family member who worked in the construction industry, which sparked their interest and knowledge in the field. Others stated that during their years of study, civil engineering was presented as a broad area with the option to choose between office-based or field work. According to the participants, the possibility of choosing between these two options makes the profession more attractive to female candidates due to the 'dirty' nature of the work on site and the possibility of choosing an office-based option.

"My uncle has a small company in the field of civil construction, so I've known the profession since I was a little girl." Interviewee P5

Since the participants present varying years of experience amongst themselves, opinions naturally differ, particularly between those with more years of experience and the younger engineers. Looking at the interviewees with more experience, when asked about their experience working in the construction industry, the majority of them, with one exception from interviewee P10, expressed that, although civil engineering is an extremely rewarding profession, they felt that they had to work twice as hard to achieve the same goals as their male colleagues. Interviewee P7 highlighted the difficulty of getting opportunities to work on construction sites early in their careers, as most of them could only find office-based jobs.

"I know it was much easier for my male colleagues to find their first job than it was for me, and I know they had an easier time entering the field while most of my job interviews were for office positions, which was quite surprising." Interviewee P7

This differs from the opinions of the younger engineers, since their careers are short-lived in comparison. The younger participants showed overall contentment about their experience, claiming that so far they have not felt any type of discrimination.

Regarding the topic of change, when asked if they would have preferred to pursue a different career path, although five out of eleven interviewees acknowledged experiencing professional discrimination at some point, all of them stated that they wouldn't have chosen a different path and are satisfied with their career choices.

6.2 Role and Career at Casais

In this topic, the participants were questioned about their experience in this field of work, their experience working at Grupo Casais, and why they chose to work there.

Of the 11 interviewees, only 3 had never worked for a company other than Grupo Casais, and the remaining 9 mentioned having worked for smaller companies. When asked why they chose Casais as their employer, the company's reputation for providing opportunities for career advancement and influence in society was frequently mentioned. All the interviewees viewed Casais positively as a company that has given them and continues to give them opportunities for growth and prioritizes the well-being of its employees. Interviewee P10 even mentioned the concept of '*Emotional Salary*' as one of the great advantages of working at Casais, as it makes her feel supported in her position and as a collaborator of the company.

Regarding career progression, although all the interviewees agreed that they did indeed have opportunities for career advancement, they felt that such progression would have been much easier and quicker if they were men. They emphasized that their work was often questioned, and they constantly had to prove their worth to be respected and considered competent professionals. As mentioned by interviewee P8:

"As women, we feel it right away; they always doubt our abilities. When a woman enters this field, we always enter as if we are worth nothing; we are always seen as weak, and we end up having to work constantly for them to believe in our work."

Salary issues were also raised by interviewees P11 and P3, drawing attention to salary imbalances where, in the same profession, two different salaries exist: the Engineer's salary and

the Female Engineer's salary. They also contested that there is a disparity between men and women in terms of salary progression.

"The same job, completely different salaries, and the same thing in terms of career progression approaches." Interviewee P3

"Another smaller contractor told me directly that I earned less because I was a woman, and he had to account for the time I would lose when I had a child." Interviewee P11

In contrast, the two interviewees who had a different opinion from this general view emphasized that they did not experience inequalities in the opportunities they were given. They don't see being a woman as a hindrance to entering the profession or progressing in their career. They acknowledge that disparities may exist, but they personally did not face such issues. As noted by interviewee P5,

"From the moment there is an opportunity to start, honestly, I don't think so. I believe it can happen, but I don't feel that way or see myself as inferior to anyone. I think it's also a matter of people's attitude towards life."

When the topic of Grupo Casais and their experience working for the group was introduced, the opinions were mostly uniform and positive, showing appreciation for the group and the opportunities it has provided them. As expressed by interviewee P1:

"Within Casais, there is a pride among women to belong and achieve more."

Having worked for different companies, most of the interviewees mentioned how Grupo Casais differs positively from the others. Being a large group, some interviewees mentioned that smaller companies usually don't provide equal opportunities to everyone and that they felt disadvantaged because they were women. In contrast, at Grupo Casais, they consider that the company has always given them opportunities for career progression and is consistently open to new opportunities. For example, when asked if she felt she had the same type of opportunities as her male colleagues, interviewee P11 mentioned:

"In small companies, no; in large companies, yes."

6.3 The Impact of Gender On The Function And Career of Civil Engineers In Grupo Casais

Regarding this matter, the subject of discrimination and obstacles was approached so as to better understand the participants experiences with the impact of gender on their profession as engineers.

When asked about the selection process for entering Grupo Casais, none of the female engineers felt that there was any type of discrimination or condescension. On the contrary, they mentioned that they felt it was a very inclusive process, and being women did not put them at a disadvantage.

The 11 participants were asked why there was such a low representation of female engineers, and the consensus among them was that engineering careers are less enticing to women since they are viewed as "dirty" and male-dominated. For example, interviewee P6 commented:

"These are areas where women don't see themselves working. (...) It might be a bit prejudiced, but the reality is that when we are little, we don't imagine ourselves saying, 'Oh, I'll see someone laying bricks.'"

It was also emphasized that the number of women choosing civil engineering degrees is much smaller compared to the number of men, and even fewer women choose to work on construction sites, with most opting for office-based jobs, which are considered more appealing due to being perceived as "cleaner." The following quotes from interviewees P6 and P4 express this reality:

"When I entered the course, we were already considered many, and we were 30-something out of 180." Interviewee P6

"In dinners with my classmates, almost none of them are in construction or working on-site. They mostly go for office or project jobs, probably because they want a job that is not so dirty." Interviewee P4

As previously presented, the majority of interviewees claim that there is an inequality of opportunities, and due to being women in a predominantly male industry, they feel inferior

and have to work twice as hard as their male colleagues to achieve the same goals. They feel disadvantaged and discriminated against simply because they are women.

The topic of motherhood was frequently mentioned, not only when asked if they had ever felt discriminated against at work but also when asked if they knew other female engineers who had also experienced some form of gender discrimination. As mentioned by interviewee P6,

"When I became pregnant and asked for breastfeeding hours, I was overlooked. They said, 'Oh, now that you're pregnant, we can't promote you because then you'll go on maternity leave, and we can't be left like that.'"

The interviewees who brought attention to the topic of motherhood felt that becoming a mother unfairly affected their careers, either in terms of salary or career progression and opportunities. Interviewee P2 also stressed that her maternity leave was not respected and that she couldn't completely disconnect from her professional responsibilities.

"A woman who is a mother is at a disadvantage, and I felt that I was at a disadvantage when I became a mother (...) in terms of position, because a mother has other responsibilities, and in that case, my function was changed, and I feel that was the reason (...) as a woman, until then, I had never felt it, and I always gave my all. If a man did what I do, he would probably be in different positions. I feel that my maternity leaves were not respected, and I couldn't completely distance myself."

The societal pressure that many women experience in their employment as a result of being mothers was also brought up by interviewee P3. She felt that women were frequently just perceived as caregivers, overlooking the importance of the father as a masculine role model in the child's life.

"In this condemnation of family support and availability, it's much more on women than on men." Interviewee P3

Of all the interviewees who answered affirmatively to having experienced gender discrimination at work, some recounted unpleasant situations at the workplace where disrespect and sexism were clearly visible. From derogatory comments, as mentioned by interviewee P8, to clearly discriminatory work situations, as reported by interviewee P11:

"You shouldn't be on-site; women are meant to be at home." Interviewee P8

"The first company I worked for, I was on-site, and two colleagues were arguing. I tried to calm them down, and one worker wanted to hit me because a woman shouldn't be telling him what to do. It wasn't easy." Interviewee P11

"The second was a smaller contractor who, well, had a different mindset. I got along with everyone; everything was going well until I started to realize that when I told them to do something, they said, 'Yes, yes, yes,' but they didn't do it until I asked what was going on. They said, 'Oh, the boss said we should tell you, 'ok,' but we have to confirm it with him first.'" Interviewee P11

When asked about prejudice, interviewee P6, on the other hand, had a different viewpoint. She said that how a woman behaves in a given circumstance influences how people around her respond to her.

"It depends a lot on how we handle things; we need to know where we are and who we are talking to. Sometimes there is a tendency, because some women sometimes feel the need to assert themselves and approach people in a way that makes them maybe not react so well, and then they end up thinking it's discriminatory."

From the interviewees who stated that they had never experienced gender discrimination at work, interviewee P10 cited an event that left an impression on her, possibly more adversely, but she still did not regard it as discriminatory:

"I was going from one construction site to another to oversee the work and wasn't identified, meaning I didn't have my helmet and vest on. As it was an infrastructure site, I was going to pass by outside the fence, and the teams there made jokes. But when I entered the gate and put on my helmet and vest, they were a bit concerned; they had made a joke about the female engineer. That was an episode that stayed with me, but other than that, everything is normal. I never felt discrimination."

When asked about the obstacles to achieving gender equality in the construction industry, the interviewees mentioned the micro-condescensions that women face in their daily work. These

small acts are seen as derogatory and are mostly directed at women, as stated by interviewee P3:

"The condescension, 'Miss,' 'Mr. Doctor,' 'Mr. Engineer', vs. 'Miss.'"
(A condescendência, 'A menina', 'Sr.Doutor', 'Sr engenheiro' vs 'A menina'.")

6.4 Peer Relations

The focus of this dimension of questions was to understand how women feel at the organizational level in terms of their relationships.

When questioned about their relationships with colleagues at work, the responses were pleasantly positive across the board. None of the interviewees expressed any displeasure, emphasizing even their satisfaction with working in a group like the Casais, where there is support and camaraderie among colleagues, as mentioned by interviewee P5:

"The relationship is good, it's positive, I have no problems. The majority are indeed men, and I have never had any issues. It's positive, and the overall atmosphere is good."

This sentiment was echoed by interviewee P10, who acknowledged that being a woman might present some initial challenges in peer relationships, but over time and with interactions, everything stabilizes, just like in any other relationship:

"Yes, the relationship with colleagues is positive. And I understand that, being a woman, at the beginning, we face more challenges, more barriers, right? Initial, inherent ones. I don't know if I can classify it as cultural. In meetings, maybe in the beginning, they see and look at us in a certain way, right? But then, as the years go by, I think we gain our place, and then everything becomes normal."

However, when asked if they felt they had the same career opportunities as their male colleagues, the response was generally negative, underscoring the certainty that they did not have the same opportunities, and that being a woman in itself was one of the significant reasons for this inequality. According to interviewee P7:

"Not in my first job... I know it was much easier for my male colleagues to find their first job than it was for me, and I know they had an easier time entering the field while most of my job interviews were for office positions, which was quite surprising."

Furthermore, interviewee P3 adds that even though she had more experience and a better resume than other candidates, she was devalued because she was a woman, and there was a concern about the possibility of her becoming pregnant and being a disadvantage for the company:

"At the beginning of my career, with the type of opportunities, it often happened that I would be in interviews with colleagues who had less experience than me, with a competitive advantage just for being men. 'Because she's young, and then she'll get pregnant, and then it's a disaster because we'll be without someone, and it's very unpleasant, and we don't like it.' In my first 10 years of my career, this happened very frequently."

Regarding the younger interviewees (with less than 3 years of experience), the responses to the same questions were surprisingly positive, stating that they did not feel any type of discrimination and had (and are having) the same opportunities as their male colleagues. They feel well integrated into the teams and notice a changing mindset, as mentioned by interviewee P9:

"I don't see differences between women and men, at least here. I've also spent two weeks on construction sites, and I didn't feel much difference. I think the mentality is changing a bit, and that's a good thing."

6.5 Gender Practices and Policies in Grupo Casais

In regard to gender equality, and addressing the topic of practices and organizational measures in favor of gender equality, the interviewees were asked whether they had actively participated in promoting gender equality in the workplace. With the exception of interviewee P3, who mentioned her active role in this promotion, all other interviewees responded negatively to this question and did not consider themselves to have played an active role in

promoting gender equality. Nevertheless, the female engineers with decision-making competencies in hiring candidates emphasized that they made sure to provide equal opportunities to both men and women, and the decision to hire a collaborator was based on their competence, disregarding whether they were male or female.

"Whenever I conducted interviews, I always looked at women the same way I looked at men." Interviewee P2

"I currently have a balance; the team is 50/50, but it was based on competence; it had nothing to do with choosing a man or a woman." Interviewee P10

As mentioned above, interviewee P3 spoke on her active role in promoting gender equality, stating that in company events, organization, and hiring processes, the topic of gender equality was always reminded:

"Regarding internal event organizations, ensuring that the topic was discussed in a lighter way but remained in people's minds, and in the hiring process when I had to do it." Interviewee P3

The participants, when asked if the organizational practices promoted a male environment, had differing opinions on this matter. However, among the interviewees who acknowledged the existence of male-dominated environments in the workplace, they emphasized that it was not the company's responsibility to promote such environments but rather a characteristic social issue, where men socialize more with men and women with women, leading to a certain exclusion due to the minority representation of women.

"I think men themselves create their brotherhoods and make women feel less comfortable." Interviewee P2

"They were not promoted; they happened naturally." Interviewee P11

When it came to the question on the company's declared gender equality policies, although several interviewees were aware that the corporation had rules in place regarding gender equality, they stated that they were unaware of the specifics of such policies. Most of the time, their response was that they were unaware of any policies in place.

Nevertheless, regarding the promotion of gender equality in the construction industry, the interviewees praised Grupo Casais as one of the companies contributing to this cause. It was mentioned several times by various interviewees how the group provides opportunities for women to enter the industry, whether as engineers or even in operational roles in their factories, and how Grupo Casais values female representation in various departments.

"We are already doing this; Casais is already doing this by incorporating women into the workforce in our factories and integrating women into the production chain."

Interviewee P10

"I think within the construction industry, it is one of the companies that tries the most to seek out women, and you can see that there are many women in all departments, and they try to give opportunities to both women and men." Interviewee P1

However, interviewee P3 mentioned an interesting comment made by the CEO of her former company during an event on gender equality policies:

"Women do not know how to market themselves, and that's why they earn less, but they are better professionals than men."

Even so, an interesting comment was made by interviewee P5, where she questioned the relevance of working for gender equality, expressing that a company's goal should be to seek competent workers regardless of gender, without any discrimination:

"To what extent is working for gender equality something that is intended 100%? Because a person wants competent workers who are happy in the positions they hold and who will move the company forward. (...) From the moment the company is open to receiving both men and women and is not prejudiced or biased based on gender, I would say there is no problem, and things will naturally align; it doesn't necessarily have to be 50/50."

In response to whether they noticed any difference in the construction industry regarding gender equality in recent years, all interviewees answered in the affirmative. They observed changes in the work environment that adapted to female representation, as well as the presence of women in higher positions, which was previously unthinkable.

"When I started working, it was impossible to see a female director on site, and now you see them, deputy directors, and many women on-site, which was very difficult to see 25 years ago. Usually, female engineers stayed in offices to work on projects."

Interviewee P3

"One thing I noticed on that site I was accompanying was that there were no bathrooms for women, but now in Casais, for example, on construction sites, it's a given that you have to have separate bathrooms for women and men if there is at least one woman working there; it can be just one, but you have to have a bathroom for women and another for men. That's a change that didn't exist in the past." - Interviewee P9

"On the construction site, I used to hear catcalls, but that doesn't happen anymore."

Interviewee P1

At the end of the interview, they were asked about their views on what could be done to promote women in engineering. Different perspectives were raised, such as the need for education from a young age to portray this profession as inclusive and not gender-segregated since engineering is for both men and women. Interviewee P10 also emphasized the importance of showcasing the benefits of this profession in society and the various areas of engineering, not necessarily limited to civil engineering in construction.

"Before the ninth year, sensitize and show what our purpose is and what good we do. We have various areas here, right? The fact that someone is a civil engineer doesn't necessarily mean they have to work on construction sites; they can hold other positions. First, elevate our mission in construction and engineering because we have a very important purpose: to effectively improve society and respond to human needs. We build hospitals, hotels, roads, and provide access, and now, in a broader area of other engineering fields, everything involves engineering, so raise awareness about that and show young people, even teenagers, what good we do and its importance." Interviewee P10

It was also highlighted by a significant number of participants that to promote women in engineering, they must receive the same opportunities, experiences, knowledge, and equal pay. Women should know that they will be treated equally to their male colleagues and receive the same benefits, being valued for their competencies just like their male colleagues.

"Equal knowledge, equal experience, equal pay." Interviewee P3

"Equal pay, having the same basis, and no discrimination. (...) The bases should be the same and give the same opportunities to everyone." Interviewee P1

"I believe people should be chosen based on their competencies, regardless of gender." Interviewee P5

Interviewee P8 further emphasized that, above all, it is a matter of giving women an opportunity in this industry, an opportunity to demonstrate themselves as competent professionals, and that construction is not exclusively for men.

"Give them the opportunity to make themselves known and to see that they truly have the capacity to work because it is a job for everyone, both men and women. I think it's a matter of giving them an opportunity to work."

7. INTERPRETATION AND DISCUSSION OF RESULTS

This study sought to understand the experiences of the female engineers from Grupo Casais and the minority status of women in the professional context of the construction industry in Portugal. Given that this study was conducted in partnership with a large company like Grupo Casais, social contexts vary due to the nature of the organizational culture. As mentioned by some of the interviewees who worked in smaller companies, the mindset of workers in those companies was more outdated in comparison. Through the shared experiences of the interviewees, it became evident that misogyny is more prevalent in such environments, as they represent smaller circles where women are even more of a minority. Naturally, in a company with a large number of employees like Casais, these "old" mindsets are not as frequent. Women are seen as equals and given the same opportunities as men. Although still in the minority, they are increasingly taking on leadership roles and demonstrating representation in higher positions.

Surprisingly, regarding the concept of discrimination, the results were divided. Five out of the eleven interviewees stated that they had never experienced professional discrimination or, even if they had encountered some unpleasant episodes, they did not consider them professionally disadvantageous or harmful. They also communicated that they had never felt disadvantaged compared to their male colleagues and always felt welcomed in the workplace. It is also relevant to mention that four of these five engineers had never worked for a company other than Casais, and the remaining one had worked for another large-scale company. This further reinforces the point mentioned above that, in larger companies, discrimination diminishes.

Regarding the topic of motherhood, five out of the eleven interviewees are mothers, and except for one, all of them acknowledged that motherhood had somewhat hindered their careers. This impediment might be linked to the prevalence of numerous professional subcultures within the construction industry. These subcultures tend to prioritize and perpetuate conventional male life patterns, which frequently reject or dismiss the caring obligations that come with children, particularly for women. As a result, women in this sector are frequently obligated to choose between continuing their professional careers and meeting their family duties. As mentioned by some of the interviewees, the inflexible nature of this line of work, with its long working hours, physical labor, and often restrictive work schedules, can make it difficult for women to match their career objectives with their job as caretakers.

The discrimination experienced by women in relation to motherhood is rooted in social expectations and stereotypes that have been embedded within the industry, and as stated by one of the interviewees, the worst comments regarding this subject come from other women, going on to quote, "*They are the ones who judge the most*". The belief that women should prioritize family responsibilities and that their devotion to their work may be jeopardized owing to childbirth maintains a skewed picture of their talents and dedication. As a result, women may encounter barriers to career progression, missed chances for professional development, or even lower job stability.

It is important to note that not all organizations within the construction industry perpetuate these discriminatory practices. In the case of Grupo Casais, efforts have been made to create a more inclusive environment that supports working parents, including mothers.

Although six out of the eleven interviewees responded affirmatively to having felt discriminated against at some point in their careers, when Grupo Casais was mentioned, the context of inequality diminished exponentially, showing overall appreciation for the company. It was specified multiple times throughout the interviews that Casais is a company that provides opportunities to everyone and aims to help its employees grow regardless of gender. From the selection process to career progression opportunities, all engineers consider these processes to be inclusive, based on merit and the employee's knowledge.

This shows that Grupo Casais is taking a step forward in terms of gender equality and gradually changing the construction industry, breaking the stigma that engineering is predominantly a male-dominated sector. However, despite the efforts of companies like Casais, discrimination and inequality are still prevalent in these types of sectors, and genuine measures need to be implemented. The role of education in shaping mindsets was mentioned, emphasizing the need to reinforce from a young age that these professions are inclusive and should not differentiate based on gender.

In conclusion, the construction industry needs to address its male-dominated subcultures and create a more inclusive and supportive work culture that leads to the success of women. To achieve this, a joint effort is required from industry leaders, policymakers, and individual workers to challenge traditional assumptions and practices and create a more diverse and inclusive industry that welcomes everyone. Through the shared experiences of the engineers, we can see that although there is still a long way to go to achieve this goal, we can already see the "light at the end of the tunnel," and the structures of this misogynistic society are being restructured.

8. CONCLUSIONS AND LIMITATIONS

The perception that certain professions are 'male professions' or 'female professions' is changing. What we see in today's working world is not the same as what we saw 10 years ago or even 5 years ago. Stereotypes are being transformed for a more inclusive society that embraces all genders. The evolution demonstrated by the chosen company in this case study is evidence of this change. In the construction industry, it used to be rare to see women on construction sites or in factories. However, at Casais, we now witness women leading construction sites as Unit Directors and Project Managers, performing the same tasks as their male counterparts. It is refreshing to observe women thriving in an area that was once overwhelmingly dominated by men. It becomes increasingly evident that construction is a field for both men and women.

This study aimed to understand how female engineers within the group felt about topics of discrimination and inequality in the workplace. While some of the responses aligned with my expectations on these issues, I was also surprised by the feedback from some of the interviewees who claimed to have never experienced any form of discrimination. This proves that this industry is not inherently misogynistic (Lingard and Lin, 2004). Instead, certain mindsets contribute to the persistence of this stigma. In this regard, Grupo Casais deserves recognition for developing an organizational culture of inclusion where all employees respect each other and where there is no place for discrimination of any type or form.

Like all studies, this one also had limitations. Due to the short time I had to investigate this subject, I was constrained in terms of the number of interviews I could conduct and analyze. Consequently, the results obtained were quite divided, without reaching a conclusive outcome. This issue could potentially be addressed with more interviews. However, given the qualitative nature of the study, conducting additional interviews may not resolve this dilemma entirely, as *"analyzing and presenting qualitative data is one of the most confusing aspects of qualitative research"* (Burnard, Gill, Stewart, Treasure, and Chadwick, 2008).

Another limitation of this study is that the conclusions derived from this case study of a specific organization cannot be generalized. Nevertheless, even though the results are not generalizable, they can be relevant for other companies in the construction sector to guide their management strategies and gender equality policies. This way, the industry can grow and become more inclusive for all. Therefore, the findings of this study can be valuable for professionals who seek to embrace more inclusive management approaches and for smaller companies aiming to break the patterns of misogyny that prevail in smaller environments.

Aside from the limitations already mentioned, it is crucial to recognize the complexities of gender equality in the workplace. Achieving real gender equality not only requires addressing discrimination but also the subtle prejudices and persistent cultural norms that perpetuate inequity. While this study focuses on the experiences of female engineers at Grupo Casais, it is important to understand that gender equality challenges are not limited to a single company, and although the findings cannot be generalized, they can serve as a starting point for other construction companies to reflect on their own policies and aim for a more inclusive and equal workplace.

Creating a diverse workplace culture requires a diversified strategy. It involves adopting gender equality policies and practices, developing support networks and mentorship opportunities for women, and challenging established gender roles and stereotypes. Organizations can also prioritize diversity and inclusion training to increase employee understanding and eliminate unconscious prejudices that may hamper progress toward gender equality.

Furthermore, organizations must have an ongoing discussion with employees, both men and women, to understand their experiences, attitudes, and expectations around gender equality. Organizations may foster an atmosphere that recognizes and respects the contributions of all workers, regardless of gender, by actively including employees in decision-making processes and recognizing their different opinions. In this sense, Grupo Casais has provided platforms and support systems for employees to openly discuss their experiences and concerns. This has established a safe place for debate, establishing a feeling of trust and openness throughout the company. By actively listening to the voices of their employees and taking action based on their feedback, Grupo Casais has not only improved the work environment for women but has also cultivated a culture of inclusivity and respect for all employees.

As seen by the rising representation of women in key roles within Grupo Casais, the construction industry, like many other industries, has made tremendous progress toward gender equality. However, there is still work to be done in order to tear down barriers and offer equitable opportunities for all people. True gender equality may be accomplished through the continued efforts, collaboration, and dedication of businesses, industry groups, legislators, and society as a whole.

Finally, adopting gender equality is not just a moral duty, but also an economic advantage for businesses. Companies that embrace diversity and inclusion gain the benefits of a more varied workforce, including higher innovation, stronger problem-solving ability, and improved business success (Ali, Kulik, and Metz, 2011). Companies such as Grupo Casais are

establishing a more equitable workplace, presenting themselves as industry leaders, and promoting amazing change for the future.

9. PROPOSAL AND MEASURES TO BE APPLIED

Fortunately, Grupo Casais already has a lot of measures that effectively work towards gender equality, such as equal opportunity recruiting, where unbiased job advertisements, diverse candidate sourcing, and fair selection criteria are applied. Working as part of the human resources team, I could experience this firsthand. They are also in favor of flexible work arrangements. Ever since the COVID-19 pandemic, a hybrid work approach has been taken, allowing the employees to telecommute on some days of the week. This allows the employees to have a work-life balance, particularly women who may have caregiving responsibilities.

Regarding work-life balance, Grupo Casais also provides resources to aid its employees in creating an environment that supports the needs of both men and women in managing their personal and professional lives, such as parental leave policies and employee assistance programs (psychology sessions, doctor's appointments, etc.).

It is also important to mention that the human resources team works towards providing their employees with training and development programs so that they continue to grow their skills and competencies in technical and leadership areas. These programs are provided to both male and female employees, thereby allowing equal access to training and development opportunities for career growth.

Although Grupo Casais is at the forefront of many measures for gender equality in the construction industry, there are some areas that need to be looked into. In that sense, my proposals are as follows:

To ensure that Grupo Casais has a meaningful Equality, Diversity, and Inclusion Policy and Plan, they should create and implement policies that encourage gender equality in areas like pay, promotions, and career development, therefore encouraging a merit-based evaluation and progression of their employees. As promoted by CITE (Comissão para a Igualdade no Trabalho e no Emprego) at the beginning of this year, regarding the implementation of Law No. 60/2018, of 21.08, about equal remuneration between women and men, a special edition of "Equality Laboratories" was conducted with the goal of opposing occupational segregation, promoting transparency and equitable pay, and eradicating all types of discrimination against women and men in the labor market. Online training for this issue was open for enrollment. In this sense, this should be taken as an example by Grupo Casais to provide training and awareness initiatives for their employees to reduce gender prejudices and stereotypes in the workplace. This works towards gender bias elimination and can include seminars on unconscious bias, gender sensitivity, and inclusive leadership.

Continually addressing the topics of equal remuneration, data monitoring, and analysis should be a priority. Data on gender representation, pay gaps, and promotion rates should be regularly collected and analyzed to identify areas for improvement and measure progress toward gender equality goals. This would help balance the numerical disparity of women in leadership positions and guarantee that promotions are merit-based, regardless of gender. Moreover, it would also keep in check that for the same functions, equivalent remuneration is given to all the employees.

Grupo Casais should also take part in diversity and inclusion initiatives such as creating employee resource groups, organizing diversity events where the achievements of diverse employees are celebrated, and, bottom line, just encouraging participation in initiatives focused on gender equality (Saunders and National Academies of Sciences, Engineering, and Medicine, 2020). This mindset should come from top-to-bottom so that it can intrinsically stick within the culture of the company (Wilson, 2019).

To support the career progression of their female employees, mentorship and sponsorship programs could take place inside the company. By establishing these formal programs, they encourage senior leaders to actively sponsor and advocate for the talented women in the organization (Saunders and National Academies of Sciences, Engineering, and Medicine, 2020).

Lastly, each construction project should have its own diversity strategy, complete with specific goals and implementation steps, so that a zero-tolerance policy for discrimination is applied.

Gender equality measures contribute to a larger representation of women in the workforce, according to empirical studies (Baker, Ali, and French, 2019). Gender equality programs communicate to job seekers that the company recognizes and encourages gender diversity, which increases the chance of them applying for and accepting employment and, as a result, improves women's representation. Furthermore, Kalev et al. (2006) investigated policies and practices to promote equality in some private firms in the United States and discovered that those activities had a beneficial impact on gender and racial equality in corporate workforces.

10. INTERNSHIP CONTEXTUALIZATION

Prior to beginning the internship, I made a conscious decision to build a set of skills with the goal of improving my professional experience and promoting personal growth. As a consequence, I think I have improved in areas like planning and organization, taking initiative and exhibiting autonomy, prioritizing outcomes, and encouraging collaboration and cooperation. These new abilities not only make my internship experience more enriching, but they also contribute to my general personal growth.

During the 4 months of my internship, I performed tasks in the Human Resources department. Within this department, I rotated between three teams: the recruitment and selection project called Blumind, which is dedicated to junior profiles and IEFP internships; the recruitment and selection team; and the payroll and processes team.

10.1 Blumind

Blumind is a developing project within the recruitment and selection team dedicated to junior profiles and IEFP internships. This project was started by Susana Barbosa, an ex-employee of Grupo Casais and my first mentor inside the company. The creation of Blumind arose from the need to target younger profiles. Given that Casais receives a lot of emails daily regarding requests for internships and university collaborations, it was essential to create something dedicated to this demand.

During the first two months, I was part of this project alongside Susana. I was in charge of the Blumind email, where my tasks consisted of receiving and sending emails regarding student internship proposals. It was a job that consisted of very generic tasks, since I didn't have the autonomy to take on tasks of greater responsibility. Since this project was dedicated to the part linked to schools and students, it was also my responsibility to help prepare the sixth edition of Casais OpenWeek, which aims to give students the opportunity to come and see some of the construction sites that are under construction by Grupo Casais in Porto, Lisbon, and Algarve, as well as the headquarters in Braga. Representing the company at school events such as the Minho University Start Point Summit 2023, among others, was also one of my responsibilities.

10.2 Recruitment and Selection

Still within the recruitment and selection team, I started to perform tasks of greater responsibility, such as filtering candidates in Success Factors, contacting potential candidates, and participating in interviews.

The focus of the internship changed as I started to deal with more senior profiles for technical vacancies. However, I continued to perform some tasks related to the Blumind project since I had been given information that was necessary for finalizing processes with the IEFP.

The team change arose from the unforeseen event of my internship mentor at the company resigning, which made the need to change mentors emerge.

10.3 Payroll and Processes

Within this team, under the guidance of Flávio Azevedo, my duties were quite repetitive and meticulous. I was in charge of issuing visas and filing personal documents for expatriate employees.

During my tenure in this position, I had the opportunity to address one of my areas of improvement in a professional capacity, namely attention to detail. The tasks assigned to me carried heightened significance, and even the smallest details played a critical role in achieving successful outcomes. This circumstance compelled me to enhance and refine my attention-to-detail skill set.

10.4 Concluding Remarks

By going through these different teams within human resources, I was able to have a better understanding of how people are managed in a large company, and I was able to observe the large flow of applications and employees that this department deals with on a daily basis.

Being directly present in the selection processes, I was able to observe critical thinking in the analysis of applications and selection of candidates, which, through an observant role, helped me in the final critical phase of this research.

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12. APPENDIXES

12.1 INTERVIEW GUIDE

The interview guide will be presented below both in English and in Portuguese, which was the language the interviews were conducted.

(Translated Version - English)

GENERAL JOURNEY

- *How many years have you been an engineer?*
- *Why did you choose this field?*
- *How has your experience been working in the construction industry?*
- *So far, what difficulties have you encountered in your professional journey?*
- *Is there something different you would have liked to do in your professional career?*

ROLE AND JOURNEY AT CASAIS

- *How long have you been at Casais?*
- *What are your roles and responsibilities at Casais?*
- *Why did you choose to work for the Casais Group?*
- *Do you feel that the company provides you with opportunities for professional growth?*

PEER RELATIONS

- *What is your relationship like with your colleagues?*
- *Do you feel that you have had the same opportunities as your colleagues?*

QUESTIONS ABOUT THE GENDER IMPACT ON THE ROLE AND CAREER OF A FEMALE ENGINEER IN THE CONSTRUCTION INDUSTRY AT THE CASAIS GROUP

- *Have you ever felt any discrimination during the selection process?*
- *From your perspective, why do you think there are fewer female civil engineers in comparison?*
- *Have you ever experienced any discrimination based on your gender in this field? (If yes, how? to what extent? when? under what circumstances?)*

- *Has being a woman made your career path different from that of men?*
- *Do you know any female engineers who have experienced discrimination in this field due to their gender?*
- *In your opinion, what can be done to promote more women in engineering?*
- *What are the existing obstacles to achieving gender equality in the construction industry?*

GENDER PRACTICES AND POLICIES AT THE CASAIS GROUP

- *Have you been involved in any activities aimed at promoting gender equality in the workplace?*
- *Compared to other companies, did the organizational practices at Casais Group in any way promote male-dominated environments or, on the contrary, counteract them?*
- *To your knowledge, did the companies you worked for in the past have any active policies against gender discrimination?*
- *Have you observed any changes in the industry regarding gender equality in recent years?*
- *In your opinion, how do you believe the construction industry can work to promote gender equality?*
-

(Original Version - Portuguese)

PERCURSO GERAL

- *Há quantos anos é engenheira?*
- *Porque escolheu esta área?*
- *Como tem sido a sua experiência a trabalhar na área da construção civil?*
- *Até agora, que dificuldades sentiu no seu percurso profissional?*
- *Gostaria de ter feito algo diferente no seu percurso profissional?*

FUNÇÃO E PERCURSO NA CASAIS

- *Há quanto tempo está na Casais?*
- *Quais são as suas funções na Casais?*

- *Porque escolheu trabalhar para o Grupo Casais?*
- *Sente que a empresa lhe dá oportunidades de crescer profissionalmente?*

RELAÇÕES ENTRE PARES

- *Como é a sua relação com os seus colegas?*
- *Sente que teve o mesmo tipo de oportunidades que os seus colegas?*

QUESTÕES SOBRE O IMPACTO DO GÊNERO NA FUNÇÃO E CARREIRA DE ENGENHEIRA E NA CONSTRUÇÃO CIVIL NO GRUPO CASAIS

- *Sentiu que houve algum tipo de discriminação no processo de seleção?*
- *Do seu ponto de vista porque é que existem poucas mulheres engenheiras civis (comparativamente)?*
- *Sente que alguma vez foi discriminada devido a ser mulher nesta área?*

(Se sim, como? a que nível? quando? em que circunstâncias?)

- *O facto de ser mulher tornou de alguma forma diferente o seu percurso em relação aos homens?*
- *Conhece alguma engenheira que tenha sofrido de discriminação na área devido a ser mulher?*
- *Na sua opinião, o que pode ser feito para promover mais mulheres na engenharia?*
- *Quais os obstáculos existentes para alcançar a igualdade de género na construção civil?*

PRÁTICAS E POLÍTICAS DE GÊNERO DO GRUPO CASAIS

- *Alguma vez esteve envolvida em atividades que tinham como propósito a promoção da igualdade de género no local de trabalho?*
- *Comparando o Grupo Casais com outras empresas, de alguma forma as práticas organizacionais promoviam os ambientes masculinos ou pelo contrário contrariavam?*
- *Do seu conhecimento, nas empresas onde já trabalhou, existia alguma política ativa contra a discriminação de género?*
- *Tem observado alguma mudança na indústria em relação à igualdade de género nos últimos anos?*
- *Na sua opinião, como acredita que a indústria da construção civil pode trabalhar para promover a igualdade de género?*

12.2 PARTICIPANT PROFESSIONAL PROFILE - Years of practice, professional position

Ana Pinto

Years of practice: 18

Position: Unit Director

Carolina Dias

Years of practice: 8

Position: Project Manager

Isabel Godinho

Years of practice: 0 (finishing the master's degree)

Position: Trainee

Cristina Maia

Years of practice: 25

Position: E-Commerce Manager

Francisca Silva

Years of practice: 3

Position: Project Manager

Maria Ferreira

Years of practice: 7

Position: Project Manager

Mariana Neves

Years of practice: 1

Position: ESG Consultant

Raquel Ribeiro

Years of practice: 14

Position: Business Director

Sara Castro

Years of practice: 7

Position: Project Technician

Regina Ramos

Years of practice: 22

Position: Business Engineering Director

Cláudia Correia

Years of practice: 20

Position: Purchasing and Subcontracting Technician