

Managing Leadership Development from a Gender Equity perspective

A case study approach in a typical materials
company

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by

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Preface

This report is written with the goal to create an impact to make a better society through valuable learning and insights obtained during my master study course in Management of Technology at Technology, Policy, and Management faculty, TU Delft.

Readers who are interested in leadership development will find this report more useful in understanding its future scope. I believe this report gives your a different dimension for leadership taking it to better shape by considering gender equity. There is always a continuous improvement for leadership development in creating fabulous leaders beyond innovative thinking in a future digital world by creating scope for ethically built leaders with equitable traits .

*I am grateful for the valuable guidance and directions given by **Prof. Dr. Robert Verburg** during this complete journey and supported in getting like-minded students into a common thesis platform. It helped me really shape this thesis research from an organization and real-time perspective. In addition, I would like to specially mention **Prof. Dr. Jenny Lieu** for guiding me to focus on the gender equity scenario at leadership levels and motivating me in possible forums. I am also thankful to **Celanese B.V. Europe** for supporting me in my thesis research and creating opportunities to understand leadership development from a gender equity perspective.*

Nevertheless, I want to thank my family, professors, colleagues, and friends who believed in me. And inspired me to come up with this research for motivating women leaders and realize that leadership development can be equity-focused, creating potential leaders for a better tomorrow.

Saravana Kumar Elango

Delft, June 2023

Executive Summary

Diversity, Equity, and Inclusion are one of the latest topics getting attention among companies and universities. This reflects societal representation for gender ratios and many organizations have set goals on gender equality in creating a sustainable and innovative workplace. However, the statistics show that there is sluggish growth for women in managerial positions. This is creating a problem for promoting equity at leadership levels in every organization. Equity and equality are not the same as the former is closer to justice creating the same opportunities for all people with different abilities. Even though organizations can able to promote gender equality and achieve it with a better ratio, there is a struggle to increase women's representation at different leadership levels. The global scenario also shows that the representation of women on board and C-suite (Chief executive level like CEO, CFO, etc) is very low demanding gender equity at leadership levels. Thereby, a case study is performed in Celanese, a materials company that has better gender equality across the organization.

This research is executed as an embedded single case study in both the global and Dutch context to understand this scenario and their gender representation at the management level. This is, in particular, to relate gender equality ratio progress and effectiveness for development programs to promote more women leaders supporting equitable workplace. The embedded case study is performed through ethnography research in terms of observations, qualitative interviews, and focused group discussions inside the organization. This approach helps to understand the existing scenario for women's representation and leadership development opportunities in a typical materials company. This is extended for industrial benchmarks at the global level as a comparison of gender equality ratios against their competitors. The leadership interviews with both genders focusing on women leaders are done and the outputs showed the driving factors, challenges, and future requirements to create equity-focused leadership. Further analysis is done to extract the key elements impacting gender equity for leadership development programs.

Whereas, focused group discussions are aimed at involving employees at different levels and employees who are closely involved in leadership programs. So, focused group discussion is done with the Young professional group that comprises employees at different levels and Human Resources team who drives leadership programs. These discussions acted as data triangulation for qualitative interviews and provided more insights into leadership development programs from different perspectives. As a result, the existing gaps and challenges for the leadership development of women employees in an organization are studied. Facts derived from the organizational level and qualitative results provided enough reasons for ineffective development programs in supporting equity at leadership levels. This is evident that leadership levels demanded more women employees and necessary driving factors to motivate them. This also emphasized how HR policies and role model representation can contribute better in driving more female employees into leadership levels.

However, the missing factor is equitable actions in leadership development programs to create an inclusive environment. Thereby, a leadership development cycle is developed to strengthen various processes making the leadership program as equity-focused and motivating female employees for leadership positions. However, the recommendations are derived using the embedded single case study and explained briefly about a roadmap showing the next future phases for equity at leadership levels and their decision-making impact on innovation. Finally, a leadership development framework is developed showing the possible methods and processes for driving more female employees from the organizational level to the leadership level. This leadership framework shows how women leaders need effective equity-focused development programs using equitable actions considering both social and professional barriers. Using this framework, the practical implications are summarised for promoting women leaders at leadership levels through equity-focused leadership development programs.

Keywords: Equity-focused Leadership, Gender Equity, Innovation, Leadership Development, Women Leaders, Women Empowerment, Chemical Industry, Materials Company, Top Management, Professional Barriers, Social Barriers

List of Acronyms

BOD - Board of Directors

CEI - Corporate Equality Index

CEO - Chief Executive Officer

CFO - Chief Financial Officer

DE&I - Diversity, Equity and Inclusion

EM - Engineering Materials

ERG - Employee Resource Group

EIG - Employee Interest Group

HRM - Human Resources Management

IT - Information Technology

LDP - Leadership Development Program

NMSDC - National Minority Supplier Development Council

SDG - Sustainable Development Goal

SER - Social and Economic Council

STEM - Science, Technology, Engineering and Math

SVP - Senior Vice President

VP - Vice President

WBENC - Women's Business Enterprise National Council

WIN - Women's Impact Network

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Introduction

Gender equity is one of the important topics in every country considering inclusive workforce practices across industrial and educational domains.(Bocken, 2020) Gender equity is beyond the meaning of equality as it aimed to attain parity between men and women in various areas such as roles, quality of life, and academics without any limitations due to societal issues like stereotypes or prejudices (Kramarae et al., 2007). From the societal pressures due to sustainability concerns and changing landscapes, Sustainable Development Goals (SDGs) are acting as an immediate call for every country (Bocken, 2020). Among the 17 SDGs, gender equality is the 5th goal addressing the issues for women in different aspects to achieve sustainability across different areas. However, the SDGs report published in 2022 shows only slight improvement in women’s leadership since 2019, and still challenging to address the gender equality issue. Beyond equality, gender equity is a key to be considered at leadership levels. Due to the COVID-19 pandemic, working women even at managerial levels affected by job loss or reduced working hours. This has been reflected in slow progress for women managers toward leadership positions (United Nations Statistics Division, 2022a) as shown in Figure 1. On the other hand, gender equity is still a threat globally considering recovery measures and societal barriers.

Women in managerial positions, 2015 and 2020 (percentage)



Figure 1: Progress in women’s access to leadership positions - sluggish progress (United Nations Statistics Division, 2022a)

It is identified that gender equity is affected by various factors, mainly socioeconomic and technological impacts from emerging business solutions (World Economic Forum, 2022). Recent research shows that there are female board members reported as 19.7% globally and 28.6% in the Netherlands during 2021 (Deloitte Netherlands, 2022) as shown in Figure 2. This research from Deloitte also studied the progress of women CEOs and CFOs to understand the diversity, equity, and inclusion in representing leadership levels. The progress was found very slow with the supervisory board chairs and CEO positions. For instance, in the Netherlands, the ratio of female CEOs increased only 1.1% between 2018 to 2021 even though 5.6% increase for female board members during the same period (Deloitte Netherlands, 2022). From the Dutch perspective, female leadership is getting focused such that new legislation passed to support gender diversity. The Dutch government adopted a 33% appointment quota for women on supervisory boards in January 2022 (Ministerie van Justitie en Veiligheid, 2021). This shows that companies and educational institutions will be marching toward the era of gender diversity, equity, and inclusion (DE & I) in leadership roles. However, there are various abiding barriers from socio-economic, economic shocks, and technological transformation factors to support women's leadership positions (World Economic Forum, 2022). In this aspect, the Social and Economic Council (SER) of the Dutch government suggests that diversity in the boardroom will improve gender diversity at senior management levels (Ministerie van Justitie en Veiligheid, 2021). This is also followed by the approval of EU law by the European Council to improve gender balance at the executive board levels in 2022 (European Council, 2022a). Recent statistics show that the female ratios at the top management are very low despite 60% of new university graduates in Europe. (European Council, 2022b).

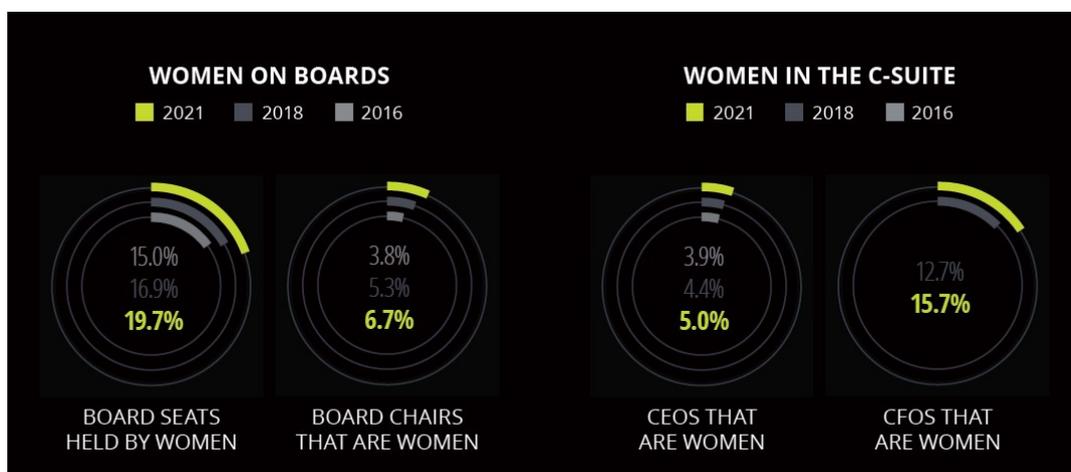


Figure 2: Global overview of female leaders ratio by 2021 (Deloitte Netherlands, 2022)

1.1. Background

In a sustainable and innovative workplace, gender plays a vital role, but women remain subtle. This is mainly due to misinterpretation of male employees against women for their capabilities which creates inequality behavior (Krivkovich et al., 2022). In management positions at different levels, women are perceived by men as different in terms of performance (Atatsi et al., 2021). Especially, when innovation plays an important part in an organization or institution, gender inequality impacts overall performance. In such organizations, women working in senior management and board positions would result in effective outcomes in terms of financial gain and performance (Phipps and Prieto, 2020). Among the several barriers and socio-economic factors, there is a biased situation at the workplace resulting in an unstable situation for women leaders. This interpretation comes from the "Women in the Workplace Report" for 2022. It shows clearly that the attrition rate for women leaders is reported very high globally (Krivkovich et al., 2022). It can also be related to the slow progress in the development of women leaders across different industries. This shows the need to analyze the current issues in achieving gender equity to enhance women's leadership development and thereby performance of an organization. Also, from an ethical and CSR (Corporate Social Responsibility) perspective, gender equality is seen as one of the important factors for any organization, and leadership frameworks are required to address opportunities to improve the gender gaps at leadership levels (Phipps and Prieto, 2020). In addition, the Gender

snapshot report 2022 concludes that more attention is required for women's empowerment and the necessary funding needed on meeting the 2030 targets on gender equality (United Nations Statistics Division, 2022b). But the current scenario needs more focus on gender equality at leadership levels with equitable actions for a sustainable and innovative organization. In every workplace from corporate companies to educational institutions, there is noticeable gender equity at leadership or management levels. This gender discrepancy needs attention and necessary actions required to break the limitations in our society for developing more women leaders (Phipps and Prieto, 2020).

1.2. Research Objective

The research objective aims in understanding the research problem of gender equality and equity at the management level. This reflects in the research goal as stated below,

"How can an organization improve the equality ratio of women employees and progress towards gender equity at leadership levels?"

From various survey reports and market research, it is evident that leadership development for an organization is effective with gender diversity and sustainability elements. The factors under this sustainability and gender diversity as shown in Figure 3 can be considered important for leadership program development. Based on the workplace survey, the results show that gender diversity contributes to stronger business results. Women and men are considered as the state of the art in contributing to gender diversity and promoting equitable actions (Krivkovich et al., 2022). Business models are majorly in place to develop novel ways of meeting sustainability in fast-changing environments (Bocken, 2020). For sustainability, innovation strategies along with decision-making and entrepreneurial thinking seem vital for leadership teams. Gender issues and sustainability goes hand in hand bringing more diversity, inclusion, and gender equality through appropriate leadership development. This brings sustainable leadership comprising gender equality at leadership levels to create an innovative workplace (Leal Filho et al., 2020). However, gender diversity needs attention towards external and internal factors considering leadership development. Thereby, this research aimed at managing women's leadership development in an organization and research to understand the influencing factors for enhancing gender equity at the leadership levels.

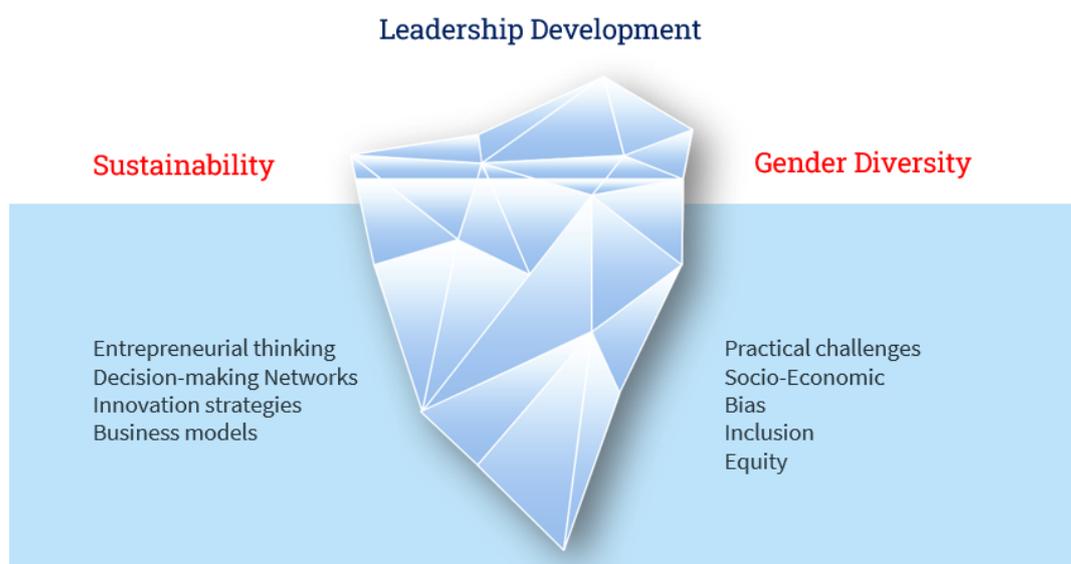


Figure 3: Key leadership development factors for a leadership position (inputs inspired from Abalkhail, 2017; Atatsi et al., 2021; Day et al., 2014; Leal Filho et al., 2020)

Gender equity issues at management levels are gaining momentum and corporate organizations focus on effective leadership development programs. But, it is not evident if these factors like diver-

sity, inclusion, equity, practical challenges, etc are considered in such leadership programs for women employees. The research goal in addressing the problem of gender equity will support sustainable and innovative workplace enhancement in any organization. However, the progress and strategies to accelerate gender equity are unclear for the scope of women's leadership at different management levels. In conclusion, it shows the significance of understanding the factors to improve women's ratio at management/ leadership levels. This further enlightens the scope of further research for effective leadership programs by understanding the gap and opportunities.

1.3. Research Question

The research question is defined by narrowing down the scope to a particular industry. In this research case, it is considered for organization level and materials company is a typical choice for women employees. It is considered that leadership development programs as the main focus and their effectiveness for women employees from the perspective of gender equity. Therefore, based on the current scenario about equity issues at leadership levels, effective leadership development programs can be understood based on the following research question.

How can the organization improve the gender equality and equity ratio at leadership levels using Leadership Development Programs (LDPs)?

Leadership development programs support the growth of an individual and motivate them to perform better as a leader at organizational levels. In the growing sustainable and innovative organization, DE & I encourages gender equality and equity at all levels. However, the leadership programs need to be effective for women employees supporting organizational performance, especially in a typical materials company. This is to understand the biased situation and challenges existing in this industry which is mainly dominated by male employees or less attractive for female employees. In addition, there is no big progress in leadership positions even though there are SDGs and government actions toward gender diversity. This raises doubt about such leadership programs and their effectiveness in motivating women employees. By researching this question, the roadblocks, and the essential improvement process to be determined.

1.3.1. Sub-research questions

This can be supported by further sub-research questions and by identifying the facts to answer the main research question.

How did the company achieve gender equality ratio over the years across the various business domains?

In order to support this main research question, this question is aimed at understanding the journey of the materials company toward gender equality. This gives insights into their strategies and equality ratios achieved over the years. The results based on this question can guide further about the scope of promoting equity and their current progress inside the organization. Also, leadership development in line with gender equality could support understanding the existing gaps and future opportunities.

What are the critical factors considered a barrier and opportunities for women employees at the management level to enhance gender equity?

There are many hidden factors acting as social and professional barriers for women employees in a company. However, the influential level of these barriers at the management level is not clear. The importance of the factors and their priority needs to be studied can motivate them for management positions. If these factors are not addressed, it directly impacts the diversity and inclusion of an organization. This would not encourage a healthy and motivating workplace for all employees impacting their performance. It is crucial to understand these factors and opportunities to incorporate them into HRM practices or development programs.

What are the existing challenges and improvement scope in leadership development programs, especially for women employees?

The effectiveness of leadership development programs is associated with several challenges when it comes to women employees. There might be some issues that stop organizations to adapt or adjust such development programs to address women leaders. It is not clear as there are not many specific leadership programs in an organization. The challenges and opportunities have to be therefore identified for leadership development programs in order to improve motivating factors or support systems for women employees.

1.4. Research Overview

The thesis research is structured into seven chapters describing the objective of managing women's leadership development in an organization. From chapter 1, the research theme is explained about the background, objective with research questions, and overall structure. A literature review is performed in chapter 2 to identify the relevant sources and deeply understand the research gap. Based on the gap, opportunities, and research scope is examined accordingly in data collection. In chapter 3, it describes a suitable approach and methodology for this research topic based on the research questions. From chapter 4, this thesis research elaborates on the data collection in an organization through a case study approach.

Data collection and their details are shared in this chapter. Following this chapter, data analysis is performed and the results are detailed described in chapter 5. Finally, the research goal is discussed in chapter 6 based on results and detailed research based on the case study analysis. Also, this chapter briefs about research limitations, future recommendations, and section 6.4 concludes the thesis research by addressing the objective for further research scope. The Appendix of this report is utilized to capture the detailed data obtained during the data collection and data analysis. It also gives more robust and detailed information with respect to the company as part of this research.

1.4.1. Research Phase

From the research activity perspective, there are various phases involved and the funneling approach is followed as shown in Figure 4. This starts with the literature study in discovering the gap and suitable opportunities. The literature study is basically in continuation with Preparation for the Master Thesis course (MOT2004). This helps in narrowing down further and evaluating the scope for the next phases. Then the next phase enters into the qualitative research, where a case study approach has done in a materials company. Finally, analyze phase is executed to conclude the research outputs based on the qualitative approach and case studies. This will end the research phase in research its goal of summarizing the findings and their future scope.

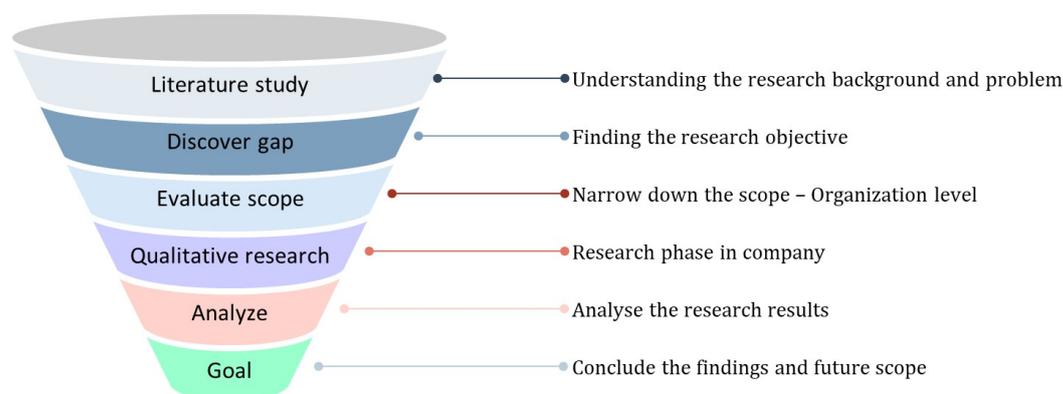


Figure 4: Research Phases - Funneling approach

2

Literature Review

Based on the relevant sources identified, a literature study is done to understand the research findings, methodology, and research gap in leadership development for gender equity aspects. The research findings are mainly focused on understanding the existing barriers and how it is reflected in leadership development programs for enhancing gender equity at management levels. In addition, to explore future advancement and approaches with Human Resources Management (HRM) for women employees through various policies and development programs.

2.1. Existing Barriers

From different articles, various descriptions are found under existing barriers or forces inhibiting women's leadership. However, most of the researchers categorize them into two types such as supply and demand side. Both these barriers either supply or demand side can be related at different levels such as social, organizational, and individual barriers providing better insights to understand gender equity for leadership (Fitzsimmons and Callan, 2016, Liu, 2013, Phipps and Prieto, 2020).

2.1.1. Supply-side Barriers

The decreasing number of women representatives in top management and supervisory boards is a highly mentioned reason for government and corporate policies to enhance woman's leadership (Gabaldon et al., 2016). There are several factors impacting the supply-side barriers and critical ones are aspirations, gender role expectations, work-life conflict, loathing towards competition, entry costs, values, and attitudes. There are still some more socio-economic factors like stereotype threats and gender-biased cultural practices but most of the literature emphasizes mainly the critical factors.

The aspirations for women are considered a supply-side barrier in motivating female employees to contribute to leadership positions (Pande and Ford, 2012). Also, the role model affects more positively in buffering women from stereotype threats, especially in the domain of education and leadership (Hoyt and Murphy, 2016). In a male-dominated domain, women feel that a lack of good role models is negative for their future achievements as they sense less likely compared to men. As per research in a male-dominated organization, those women who are associated highly with their gender like to nominate other women as their role models (McLaughlin et al., 2018). In terms of values and attitudes, gender differences play a crucial role in determining the potential opportunities for female leadership positions. Perceived values and attitudes that women are less hard workers and less motivated for powerful positions are considered as another potential barrier. However, these differences are mainly from individual views and social constructionist theories (Gabaldon et al., 2016). Gender role stereotypes are one of the major social factors in perceiving women as weaker for managerial positions (Liu, 2013). From a social-cultural perspective, they identify themselves as per cultural expectations for women. This limit female from leadership positions by creating a significant internal barrier (Gabaldon et al., 2016). This is also related to the double bind effect in which women are negatively perceived as either being too feminine or masculine for leadership positions (Fitzsimmons and Callan, 2016). Also,

recent research found that women across academic domains are stereotyped for not possessing natural, inbred talents that are needed for success in those fields (Hoyt and Murphy, 2016). In terms of domestic responsibility, there is an imbalance in the work-life conflict between men and women. Because of inadequate sharing of household responsibilities and childcare, women in organizations find it difficult to focus on higher managerial positions (Fitzsimmons and Callan, 2016). These issues even end up with women deciding to relieve or resign from working organizations. Looking into another side, this will also create preferences and entry costs for women considering greater childcare duties. Also, fewer working hours or on-the-job experiences impact their promotion chances to leadership positions (Pande and Ford, 2012). It is found that women's hesitancy or aversion towards competitive domain restrict their interest in the leadership advancement process. Some of the literature research shows that women prefer less competitive opportunities compared to men creating a strong challenge and supply side barrier (Pande and Ford, 2012).

2.1.2. Demand-side Barriers:

Based on various literature, the demand-side barriers include gender discrimination, organizational bias due to ingratiation, the lack of resources, human capital, and social capital (Gabaldon et al., 2016). However, some of the critical factors impacting the demand-side barriers are system bias, gender discrimination, and institutional environment. Demand-side barriers contribute more in terms of individual and organizational type compared to supply-side which is influenced more by societal barriers. Apart from the above list, gender segregation, gender pay gap, and tokenism also contribute as demand-side barriers in some of the literature articles (Abalkhail, 2017; Fitzsimmons and Callan, 2016; McLaughlin et al., 2018). However, this can be found as a less potential factor compared to the other barriers.

In male-dominated industries, gender discrimination exists in different forms which act as one of the potential barriers (Fitzsimmons and Callan, 2016). Direct discrimination, taste discrimination, and statistical discrimination are found common in such organizations as a hindrance to women's growth for top management positions (Fitzsimmons and Callan, 2016; Pande and Ford, 2012). Direct discrimination is about women undergoing gender-based harassment that occurs at all levels of management acting as a glass ceiling for women's leadership development. This leads to negative consequences like less engagement in work, reduced efficiency, and discomfort and affects their well-being (Fitzsimmons and Callan, 2016). Taste discrimination is based on individuals' taste or preference towards male employees for leadership positions. This is related to social norms such as a leadership position being viewed as a masculine activity (Pande and Ford, 2012). On the other hand, lack of evidence or supporting data about women's performance causes members to discriminate against women's leadership on a gender basis. These beliefs are based on statistical discrimination data such that women's working potential is underestimated. This causes voters or employees to reply to men's leadership whose potential is well known (Pande and Ford, 2012). The environment is very challenging and tough for women in both industry and academic domains. System and segregation are very biased so women leave before they get chances for leadership positions (McLaughlin et al., 2018). When it comes to executive board selection, bias happens based on networks in top management, and previous board members who are largely male-dominated (Pande and Ford, 2012). In addition, this kind of systemic bias environment in an organization limits women from allocating challenging tasks that support essential leadership experience (McLaughlin et al., 2018). Bias among the members seems still prevail and more awareness is needed for women's inclusion and gender diversity to eradicate this barrier from the demand side. In top management positions, selection committees reckoning on existing networks restrict them in choosing competent women leaders (Pande and Ford, 2012). Finally, most of the literature describes the environmental factors in an institution acting as structural barriers to women's leadership development. Especially the presence of women in formal bodies like the welfare state, the labor market, and government parties determines the gender equity policies (Gabaldon et al., 2016). In some cases, HRM policies can negatively influence the selection, performance evaluation, and leadership development programs. This leads to lower opportunities for women than for men to undergo leadership training for top management roles (Liu, 2013).

2.2. Leadership Development

There are other perspectives on addressing women's leadership development through inclusive leadership research. Based on literature research, findings show how inclusive leadership supports positive relationships in a diverse working environment. This is considered to show the value of inclusive leadership, directly and indirectly, aligning with feminist pedagogy for women's leadership and empowerment (Sugiyama et al., 2016). Inclusive leadership stands out as unique from diversity management in terms of enhancing workforce representation at all levels (Randel et al., 2018). It is found that diversity management had not been successful and still, there are a reduced number of women representatives at higher levels in an organization. However, a leader's inclusion triad can enhance diversity's benefits by improving necessary leadership development for women and creating an inclusive environment to deliver effective performance (Randel et al., 2018). This research further shows inclusive leadership development as a key factor in enhancing gender parity in leadership positions. Based on literature research on inclusive leadership traits, it found that positive impact is created at the employee, leadership, and overall organizational levels. This promotes organizational diversity by increasing female employees at various leadership levels, empowering their uniqueness, strengthening their team, and supporting organizational changes (Veli Korkmaz et al., 2022). Looking into further detail, Inclusive leadership explains four dimensions as stated below that boost gender parity at various organizational levels (as referred from Veli Korkmaz et al., 2022).

1. Nurture employees' uniqueness
2. Team fortification
3. Exhibit recognition
4. Encouraging organizational efforts

Nurturing employees' uniqueness dimension enhances the relationship between the employees and leadership. Four categories are addressed mainly on diversity promotion inside the organization, focusing on employee development, supporting individual employees, and empowering them (Veli Korkmaz et al., 2022). From women's development perspective for leadership levels, inclusive leaders support diverse contributions by valuing their uniqueness. Through this dimension, inclusive leaders could be able to encourage performance enhancement and motivate women's involvement in leadership training (Randel et al., 2018). The second dimension of team fortification describes employee relationship strengthening within the team. Based on the research, developing equity and justice among the team encourages the feeling of belongingness (Veli Korkmaz et al., 2022). Establishing justice and equity through inclusive leadership supports the fair treatment of employees in a group that can reform women's leadership engagement (Randel et al., 2018). Shared decisions among the group characterize the importance of individuals especially enhancing women's participation in the team (Veli Korkmaz et al., 2022). Also, role modeling in the team through inclusive leadership positively motivates employee to enhance diversity and develop women leaders (Randel et al., 2018). The third dimension of employee recognition aims in appreciating the efforts irrespective of gender for his/ her valuable contributions to an organization. Across different levels, employee recognition plays a vital role in attaining inclusive behavior not only at the team level but also at the individual level (Veli Korkmaz et al., 2022). The last dimension which is encouraging organizational efforts enhances the necessary strategy for inclusion, especially being open to changing norms and employee trends (Veli Korkmaz et al., 2022). This inclusive encouragement could lead to a supportive workplace for women employees when there is an opportunity to grow at higher management levels. This inclusive behavior facilitates the upcoming challenges and new opportunities that are mandated for an organization (Veli Korkmaz et al., 2022). This can be highlighted as a key dimension considering how inclusive leadership behavior can support organizational changes toward inclusion.

Further research on analyzing leadership development program comparison between existing leadership and equity-focused leadership styles showed the importance of the inclusive element. Based on the literature study, an inclusive leadership framework addresses the relational awareness of gender diversity (Sugiyama et al., 2016). Due to gender role expectations as discussed earlier, women are not recognized properly for leadership roles even though they meet leadership requirements. Through inclusive leadership, the transition from the identity level to leadership supports women in gaining recognition and value for uniqueness (Randel et al., 2018; Sugiyama et al., 2016). The research analysis

stresses individual internalization motivating a positive viewpoint for women about their gender and leadership identities. Finally, inclusive leadership development would suggest women gain confidence through inclusiveness against expected leadership behaviors such as masculine styles and prevailing norms for an organization (Sugiyama et al., 2016). This shows how awareness is much essential in an organization towards DE&I supporting women's leadership development.

2.3. Findings

Findings from this literature research have reported existing barriers/ challenges in female leader positions but also gaps that are needed to enhance this research. From exploratory or descriptive research with data-driven surveys, it does not intensify the upcoming challenges or future measures required for gender equity at top management levels. The leadership development for women employees in an organization is found critical in terms of sustainability, diversity, and inclusiveness. There are various factors identified influencing the role of women leaders in management positions. The analysis for the supply-side and demand-side barriers shows a list of factors but it is not evident about HRM improvements or a road map for women's leadership development. The problem of less number of women employees at the management level was discussed elaborately. However, the growth rate is not supportive of SDGs and it is not clear for most influencing factors impacting this growth. Only the barriers are discussed to identify the futuristic strategies but resolving gender equity at the management level is still ambiguous through leadership programs. As summarized, there is exploratory research from different articles about factors affecting female growth as leaders at various management levels. However, none of the literature emphasizes the critical factors and the effectiveness of leadership development programs. For example, the focus on improvements can be diversified across different factors but it would not be effective. Also, gender equity issues at the management level have to undergo social, economic, and individual barriers demanding effective strategies. This gap as shown in Figure 5 can be filled by further research on understanding the critical factors and improvement strategies for an organization that can be implemented from an HRM perspective.

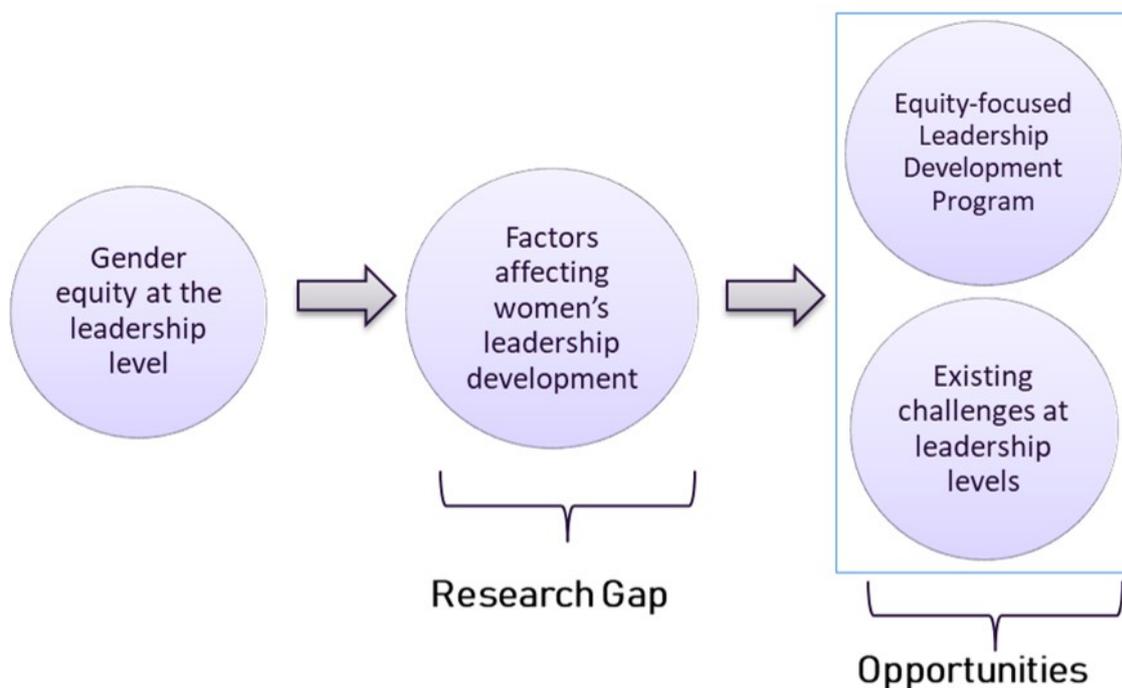


Figure 5: Research gap and opportunities

The literature review showed that there is a research gap in addressing these barriers for women instead of highlighting a lack of inclusiveness or organizational issues. It did not address the cause

and effects inside the organization which fuels these barriers and acts as a hindrance for female employees for progressing into management positions. From these findings, there is scope to address these research gaps and identify the necessary actions. Further opportunities are possible in understanding the existing challenges at leadership levels and establishing effective leadership programs for women employees. Thereby equity-focused leadership development and future scope can be studied in developing leadership programs for promoting more women leaders.

3

Research Approach

The research methodology for this thesis can be selected based on research methodologies used in various literature focusing to address the research questions. The aim of the methodology is to gather more relevant information to meet the research objective. The exploratory form of qualitative research can be approached which can address the 'why and how' question (Sekaran and Bougie, 2016). However, this kind of research is done with descriptive and exploratory methods but it still needs improvement. In this research, a case study approach will be followed because it focuses on collecting information on the specific objective at the organizational level (Sekaran and Bougie, 2016). Since the research question on leadership programs and gender equality needs to study contemporary events in the organization, the Case study approach is preferred as a research methodology (Yin, 2018). The case study also relies on observation of events, and interviews with people who are involved part of those organizational changes (Yin, 2018).

3.1. Research Design

The research strategy is determined based on the research questions. Since this is considered to address gender equity issues at leadership levels, the research demands a rich, holistic, and emerging model in leadership development. Therefore, the strategy is focused mainly on various management levels prioritizing more female employees in the organization who are at the various management levels. This is to understand the barriers which acted as critical factors for their leadership development during career growth in this materials industry. In addition, the inputs are collected to make the existing development programs more effective for women employees from a gender equity perspective. Secondly, women employees from key departments like HR, finance, commercial, purchase, and supply chain domains are prioritized who experience dynamic environments with more challenges. Therefore observational studies, interviews, and various discussions inside the organization could support research in collecting relevant information. The research design for this thesis research between the problem statement and data analysis is defined as shown in Figure 6. This is briefly explained in the following section as a research strategy.

3.1.1. Research Strategy

As described, the case study approach is finalized considering the research at the organizational level. This acts as a pragmatic inquiry as there are no clear evident facts between phenomenon and context within a real-life context (Yin, 2018). Moreover, the qualitative research data obtained through case studies is more advantageous than quantitative data. This is because it gives more scope to understand deeply the intentions of organizational events and their actions (Gog, 2015). According to Yin, 2018, the research process of the case study does not require control over the behavior of events and can focus on contemporary events. In this case study at a materials company, the research interference is minimal and the study setting is non-contrived. For a non-contrived setting, the research type is suited mostly for exploratory and descriptive research (Sekaran and Bougie, 2016). Based on the research objective, the unit of analysis is focused on gender equality ratios and leadership development programs. In this

research, gender ratios and leadership development programs are analyzed and the data collected aims in understanding the effectiveness to support women leaders. From the time horizon perspective, the research is planned as one shot or cross-sectional since the time plan is to complete this research in months (Sekaran and Bougie, 2016).

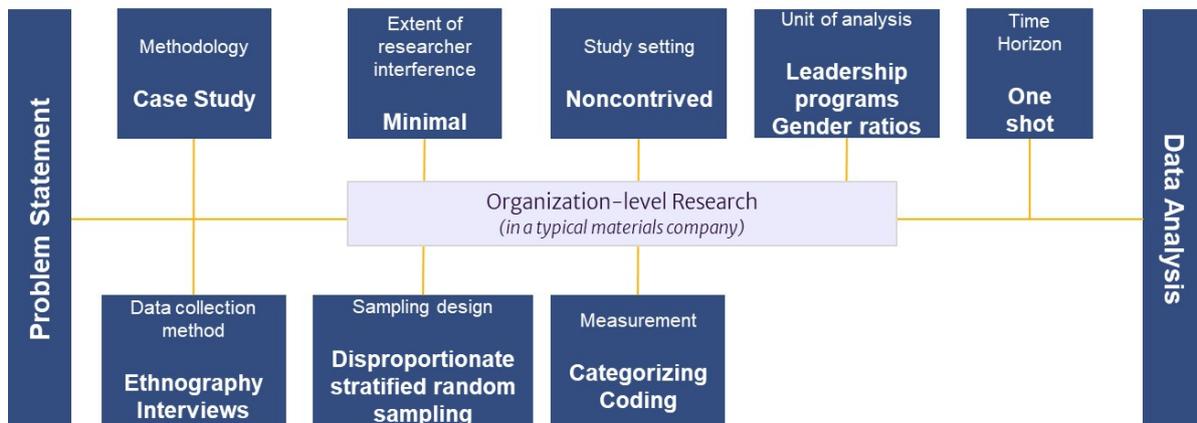


Figure 6: Research Design showing strategies and data collection methods (Sekaran and Bougie, 2016)

3.1.2. Case Study Design

Following the research process for the case study (Yin, 2018), each element is defined. This research’s case study design is considered a single-case embedded design study conducting a specific case to understand the embedded units across the global and regional context (Baxter and Jack, 2008). The proposition is designed which relates to the research question on the leadership development programs for women employees in an organization. The preparation process involves the cases in the organization focusing on the mid and top-management environment. Construct validity technique is used to validate using multiple sources of evidence and review using key informants (Yin, 2018). Accordingly, the qualitative approach is applied to collecting data in the organization through interviews, document analysis, and other observations inside the organization. This further supports triangulating the data and analyzing the results against the research propositions. In this research, the case study at Celanese company is performed as a single-case embedded design considering both global and the Dutch context as shown in Figure 7.

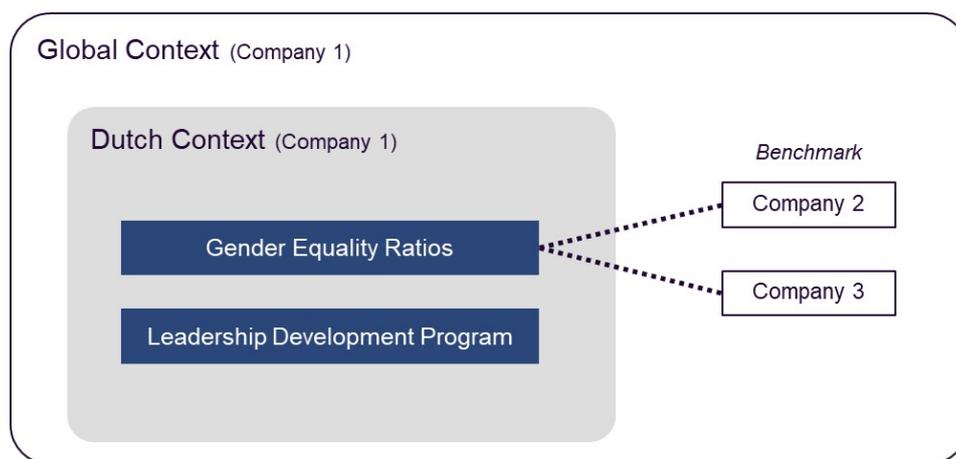


Figure 7: Single-case (embedded) design according to Yin, 2018

Since, the unit of analysis is understanding gender equality ratio and leadership development programs, these are embedded as sub-units for case study research. Through ethnography research, the

unit of analysis is studied across the global level and in Amsterdam location. The holistic approach at the global level and system data analysis at the regional level in the Amsterdam location provides a trend of organizational shifts across the company (Yin, 2018). A comparison study extended for one of the embedded sub units i.e. gender equality ratios to understand the company's benchmark in this industry against their competitors. This study supports the co-relation factors in company practices and targets across this industry toward gender equity at leadership levels.

3.2. Data Collection

In the case study method, data are collected in different ways in either qualitative or quantitative ways (Gibbert and Ruigrok, 2010). In this case study research, ethnography research is followed by observational studies inside the organization, conducting leadership interviews and focused group discussions as a qualitative approach (Gibbert and Ruigrok, 2010, Yin, 2018). The data collection is mainly from observational studies and interviews inside the organization to obtain rich information. In addition, ethnography research will be executed at the Amsterdam location with available organizational data during the data analysis phase. The interviews are semi-structured with a set of questions and a free flow of questions based on the inputs. In general, structured interviews help evoke more in-depth facts associated with them. It also helps in finding the critical problem and possible solutions from interview output (Sekaran and Bougie, 2016, Weller, 1998). The interviews are based on four objectives: value, trust, meaning, and wording (Alshenqeeti, 2014). Based on the research question, the population is aimed at a corporate domain with global business and diverse working cultures. Both men and women employees representing management levels in a corporate industry will be considered samples for this research. However, more weightage is considered for women leaders based on the research opportunities for gender equity. The sampling approach plays a vital part in data collection as it can impact generalizability (Sekaran and Bougie, 2016, Weller, 1998). In this case study, the qualitative data collection apart from observational studies are mainly dependent on leadership interviews and focused group discussions.

3.2.1. Conducting Leadership Interviews

The semi-structured interview approach is carried out in line with the literature findings and research objectives. The questions are framed considering internal and external factors considered barriers to women's leadership development. This part of the interview intends to record the motivating factors that influence one's behavior to grow dynamically moving out of comfort zone to grow and develop as a leader (Phipps and Prieto, 2020). The interview is targeted mostly at the top and middle management women leaders inside the organization at the Amsterdam location. Totally eight leaders were interviewed out of which six are women leaders for this qualitative study. The interview questionnaire is categorized in such a way to understand the leadership driving factors, barriers, need for organizational support, and future requirements to promote equity at leadership levels. These interviews with existing leaders, helped to provide enough insights into the leadership journey and key factors for enhancing equity-focused leadership.

3.2.2. Focused Group Discussion

Followed by the interview method, a group interview with a set of groups is planned inside an organization. This provides more flexibility in reaching employees inside an organization considering hybrid work modes. The leadership interview shows only the inputs from aspiring leaders who are highly motivated or challenged by the barriers inside the organization. But it does not provide employee perspective at other working levels and leadership programs to support gender equity. Therefore, focused group discussions are aimed to involve employees at all levels and understand each perspective in promoting women leaders inside an organization. Mainly, the criteria are set to understand the embedded sub-unit of leadership development programs and their effectiveness towards gender equity. Two groups with a range of 6 to 9 members are selected which have mixed employee levels and employee who directly works on leadership development programs. A young professional group and HR management team at the Amsterdam office are selected. From both groups, data collection is executed from a leadership program perspective and necessary insights for strengthening equity-focused leadership inside the company.

3.3. Data Analysis

From the ethnography study, the collected data are analyzed for gender equality ratio across the organization in both global and Dutch contexts. The statistics and quantitative data on gender representation are analyzed with a comparison of industrial benchmarks. For interview-based exploratory research, the data are gathered from leadership interviews in this materials industry. Collected qualitative data is analyzed using axial coding for existing challenges in the leadership program and factors affecting leadership positions. This analysis is plotted under four different categories and results are grouped to identify key elements. Both the existing barriers and future requirements of equity-focused leadership are analyzed using these findings. In addition, focused group discussions aimed at underlying existing leadership development programs and their effectiveness. This qualitative interview data is analyzed to summarize data triangulation against the leadership interviews. This confirmation ensures the data reliability and consistency obtained from interview-based exploratory research. The responses related to relevant questions are also combined and measured to increase the reliability of data analysis (Weller, 1998). From the focused group discussion results, the analysis is interpreted for the leadership development cycle for strengthening the effectiveness from gender equity perspectives. Through these analyzes, all the data are compiled to provide qualitative information answering the research questions.

4

Case Study

4.1. About the Organization

Celanese Corporation as a global technology leader is a materials company producing specialty materials and chemical products in the majority of industries and consumer applications. It is one of the Fortune 500 global materials (chemical and specialty materials) companies based in Dallas, Texas. As a consumer product, it plays a vital role in essential everyday living goods with manufacturing facilities across North America, Europe, and Asia (Celanese, n.d.-d). In the acetyl business, Celanese is still considered one of the world's largest producers of acetyl products that acts as an intermediate chemical in most industries. Next to the acetyl business, Celanese is also known as a leading global producer of high-performance engineered polymers in various applications and high-value products (Celanese, n.d.-d). In terms of organization, Celanese has approximately 13,000 employees globally with headquarters based in Texas, North America. It ranges with different regional offices establishing a global network for commercial, technical, and manufacturing facilities. In Europe, Amsterdam is considered a regional headquarters functioning as a strategic business center. From manufacturing facility information, Celanese holds more than 50 owned and operated facilities globally across 27 countries (Celanese, n.d.-d). The business domains are mainly categorized under four product segments (Celanese, n.d.-a) such as follows,

1. Engineering Materials
2. Cellulose Acetate
3. Food Ingredients
4. Acetyl Chain

The engineering materials have their product portfolio in high-performance polymers and thermoplastic elastomers in various innovative applications. In the case of the Cellulose acetate business, the products are mainly acetate tow items with a wide range of filaments produced from sustainable wood pulp sources. The products are mainly filtration applications, majorly for tobacco products (Celanese, n.d.-a). In the food ingredients business, Celanese supplies ingredients for food additives, personal care, home care products, and pharmaceutical excipients. Celanese pioneered in this industry especially when it comes to business for sweetener acesulfame K and the preservatives like potassium sorbate and sorbic acid (Celanese, n.d.-a). On the other hand, the acetyl business is the key domain for Celanese globally, including various sectors like construction, agriculture, medical industry, consumer goods, industrial, oil, gas mining (Celanese, n.d.-a). The company is led by Lori J. Ryerkerk, the Chairman, Chief Executive Officer, and President since 2019. As a women CEO, Lori acts as a role model inside the organization and this is reflected in gender equality at executive board levels (Celanese - Investor Relations, 2020). Refer Appendix A that shows the global organization details at the executive board and top management levels.

4.2. History

Celanese corporation has a history of over 100 years in the past and it is necessary to understand the journey influencing various business domains in key global locations. Celanese has created an evolution from a small backyard shed experiment at Switzerland to a global materials company proving innovative technologies (Celanese, n.d.-b). Founded by the Dreyfus brothers, the company had a vision for discovering market needs and ways to deliver them. Focusing on their strategies and ability to adapt considering diversification, the company expanded globally with key elements towards safety, innovation, productivity, culture, performance, and results (Celanese, n.d.-b). The summary of historical events is stated in the Table 9 (refer Appendix A) to understand the journey and transformation in this material industry (based on Celanese, n.d.-b). From 1910 to the 1990s, the company focused on strengthening technology and product portfolio diversification. In recent decades especially after the formation of "New Celanese" in 2013, there was an increase in acquisition and joint ventures to establish further stronger business across different domains. This is driven by Mark Rohr who was been one of BOD since 2007 and become the company's chairman in 2012. Based on his actions toward driving strong culture and inclusive leadership traits, the company has focused more on DE&I initiatives. It is demonstrated through his strong focus on creating value for employees, customers, and shareholders (Celanese - Investor Relations, 2020). This is further discussed in detail through observational study in subsection 4.9.1.

4.3. Diversity, Equity, and Inclusion

In the current situation, the company strongly believes in promoting a respectful culture and inclusiveness for driving innovation toward successful business growth. It aims to establish concrete and significant steps in enhancing employees' well-being and rights across different communities globally. As a future scope, Celanese focuses on Diversity, Equity, and Inclusion (DE&I) objectives and their incorporation at each level in the organization. In addition, equitable opportunities are promoted for all of their stakeholders (Celanese, n.d.-c). This is in line with their recognition externally such as a score of 100 percent on the Human Rights Campaign Foundation's 2021 Corporate Equality Index (CEI) successfully for three consecutive years ("Human Capital Report", 2021). Improving everyday life around the world is the primary vision statement of Celanese and it is believed to achieve through people, chemistry, and innovation. This extends further in the Celanese Foundation which is a dedicated unit for improving people's quality of life around the world through various activities (Celanese, n.d.-c).

The Leadership statement as shown below defines DE&I's vision inside the company impacting for positive working environment.

"At Celanese, diversity, equity, and inclusion are not only business imperatives but also are embedded into who we are and integrated into all areas of our company from our people around the globe to the communities where we serve, to our supply chain operations" - Lori J. Ryerkerk, Chairman, CEO President (Celanese, n.d.-c).

4.3.1. Supplier Diversity

Supplier Diversity Program is in place to develop much more small and diverse-owned functions in product supply chains. This diversification is aimed majorly at firms that are owned by women, person of color, veterans, disability, or people from the LGBTQ+ community (Celanese, n.d.-c). Extending the company's DEI initiatives to suppliers enable it to recognize a wide range of communities and create opportunities in various geographic locations. From this DEI culture, the company is a member of the National Minority Supplier Development Council (NMSDC) and the Women's Business Enterprise National Council (WBENC). Through these advocacy groups or business associations, Celanese provides sufficient knowledge and opportunities for diversified business owners ("Human Capital Report", 2021). On top of it, the company monitors the implementation of the supplier diversity strategy and its progress by establishing an Executive Supplier Diversity Council. Using third-party partners maintaining high legal and ethical standards, the Code of Conduct is designed accordingly in understanding DEI expectations as part of corporate responsibility ("Human Capital Report", 2021).

4.4. Values

There are six core values of the company which are followed to enrich the working culture and environment creating a better place for all employees globally. They are as follows,

- People
- Safety
- Customers
- Quality
- Community
- Shareholders

The people value is aimed at creating an inclusive workplace by creating opportunities, engaging, and rewarding for collaboration, development, and leadership. In terms of Safety, it is the commitment to health including emotional and social well-being for employees, communities, external stakeholders, and the environment. By solving the most critical needs, customers are valued as partners of choice (Celanese, n.d.-d). In terms of quality, its delivery and reliability are always set to exceed customer expectations. For community value, the company indicates corporate social responsibility through various social and sustainable actions. The value of Shareholders is created by enabling profitable performance for both shareholders and employees (Celanese, n.d.-d).

4.5. Employee Groups

Employee groups at Celanese are considered an integral part of promoting DE&I. These groups are led by employees across countries aligning with the company's objectives developing a sense of belonging for our people globally (Celanese, n.d.-c). These groups operate across countries connecting employees from different backgrounds, cultures, races, and gender. Thereby, the employees at different levels including top management leaders are involved in creating a diverse and inclusive environment through these groups. For example, the BOLD group organizes events or sessions across different locations, and awareness is established inside the organization for DE&I initiatives (Celanese, n.d.-c).

4.5.1. Employee Resource Groups (ERGs)

Employee-led groups that inspire, develop and increase the visibility, representation, and promotion of its members through a variety of activities and events, while strengthening cultural awareness and competence for all employees (Celanese, n.d.-c).

1. ACE (Asian Collaboration Empowerment)
Dedicated group to encourage network among people of Asian, Pacific Islands, and Middle East (APIME) origin focusing on strong communication, collaboration, development, and advancement across the organization. It aims to nurture cultural awareness and also celebrate traditions.
2. AIM (Abilities In Motion)
Targeted for employee caregivers and people with different abilities inside the company to create a safe, positive, and inclusive environment.
3. BOLD (Blacks Organized for Leadership and Development)
This group focuses on supporting professional advancement and accretion of Black professionals thereby fostering an inclusive environment.
4. LIDER (Latino Impact, Development and Empowerment Resource)
Aims in transforming the Latin community as an integral and dynamic part of the company by embracing Celanese values.
5. PRIDE
This group plays a major role in communicating the significance of diversity and inclusiveness inside the company to get all employees valued.
6. SEASONED PROFESSIONALS
Allying generational stereotypes existing in the company and creating awareness in acknowledging the talents and bringing skills tenured professionals to the company.

7. VETERANS

Aims to the development of veterans, military personnel, and first responders professionals by means of recruitment and retention support.

8. WIN (Women's Impact Network)

The group aims to empower and motivate women both personally and professionally in the company. It also promotes the creation of an inclusive and rewarding culture with community outreach, networking, health, and wellness.

9. YP (YOUNG PROFESSIONALS)

This is targeted at young professionals inside the company by providing development opportunities. It also prepares them to interact with business leaders and understand their scope to develop a productive career.

4.5.2. Employee Interest Groups (EIGs)

Employee Interest Groups (EIGs) are related to extracurricular activities which are hobbies, health, and fitness. These groups are formed to organize meetings and activities to engage, educate, support, and connect employees inside the organization (Celanese, n.d.-c).

1. GO GREEN

Engaging employees in sustainability opportunities. Also involves in creating, educating, promoting, and engaging employees in the sustainable community.

2. ONE LIFE

Active resource for improving the health, fitness, and overall wellness of the employees by providing health education.

3. PARENTS NETWORK

Aimed to improve work-life balance for parents by increasing engagement ensuring strategic and operating goals.

4.6. Women Leaders

4.6.1. About CEO

Lori Ryerkerk has been elected as President and Chief Executive Officer by the Board of Directors in 2019. Lori Ryerkerk as a leader in the industry had experienced a lot of senior leadership roles across a range of industries and countries around the world (Celanese - Investor Relations, 2020). As a women leader, Lori started her career as a chemical engineer with Exxon-Mobil, a veteran of the oil and gas industry which was a male-dominated company then in the 1980s. Further, her career has grown further leading manufacturing operations of Royal Dutch Shell in Europe and Africa. In her early stages, having a 14-hour day and being a mother transformed a better leader progressively. Undergoing both professional and social barriers, she ended up bringing her few-month-old son into the workplace. Overcoming these challenges without comprising work created an impact among the people to understand reality and humanity (D Magazine, 2022). In spite of these barriers, Lori had enough managerial skills and demonstrated leadership behavior in these industries. This journey transformed her into a people leader and opportunities followed for her leadership at Celanese Corporation.

4.6.2. Women In Manufacturing Industry

Sarah Abrego as a Senior Principal Engineer is recognized as another strong leader in the manufacturing industry. From the Process Technology Group at Celanese, she strives on balancing steam systems for minimization of energy usage (The Manufacturing Institute, 2023). Her leadership has created inspiration and acts as a catalyst in driving next-generation engineers. Her leadership with technical expertise led an energy optimization program that is honored by the American Chemistry Council as one of the top 10 national energy efficiency programs (The Manufacturing Institute, 2023). This has also been reflected in her leadership in training programs and acts as an evident role model in this industry. Her dedication continued during the COVID-19 pandemic for successful milestones and developmental activities. Promoting the Celanese culture and integrating the values, Sarah's actions resulted in team expansion with DE&I such as with team representation transformed into 60% female

and 60% minority people. With her leadership and mentorship skills, high-productivity engineers are developed with company values (The Manufacturing Institute, 2023). Throughout her career journey, She has been recognized for leadership and empowerment of other employees. This has been recognized and resulted in honor as one of the women leaders in the manufacturing industry by The Manufacturing Institute's 2023 Women MAKE Awards program (The Manufacturing Institute, 2023). Sarah as a leader believes working with people from diverse skills and background improve production by solving problems and creating innovative solutions (The Manufacturing Institute, 2023).

4.6.3. Role Model and Aspirations

Role model representations and aspirations are an evident factor in creating a better innovative workplace for the people and the company. In this aspect, Celanese Corporation always focuses on the people and its vision for chemistry and innovation (Celanese, 2021). This is in line with their recognition and honors due to various achievements. However, considering gender equity and parity perspectives, the company gained attention after women CEO and inclusive for more women on the executive board. Among various companies from the S&P 500 and FORTUNE 1000, Celanese along with other 42 companies stood out for exceeding 50% women representation on its corporate board of directors. This is recognized by The Women's Forum of New York at its sixth biennial "Breakfast of Corporate Champions Event" (BCC) in 2021 (Celanese, 2021). There are many such achievements or recognition for role models and representations since 2019 in the company. Some of the key achievements are listed in Table 1.

Year	Role Model	Recognition/ Achievements
2012	Mark Rohr	Chairman, President, and CEO transformed company to be more inclusive and initiated transition by handing CEO responsibility to women leader, Lori Ryerkerk in 2019.
2019	Lori Ryerkerk	Women CEO and appointed as Head of Executive Board, become a role model representation in this chemical industry.
2020	Lori Ryerkerk	Recognized as a women leader in the industry. Honored as D CEO's CEO of the Year (D Magazine in Dallas, US)
2021	Lori Ryerkerk, Kim K.W. Rucker, Deborah J. Kissire, Kathryn M. Hill Jean S. Blackwell (BOD)	Celanese as an organization honored by The Women's Forum Of New York. This is based on their successful achievement in creating Full Gender Parity on Corporate Board.
2023	Sarah Abrego	Senior Principal Engineer from the Process Technology group recognized as a women leader in the manufacturing industry. Honored by "Women Make" Awards, Honorees, and emerging leaders from The Manufacturing Institute, Washington DC, US)

Table 1: Women leaders' recognition and achievements in the organization (Celanese - Investor Relations, 2020; Celanese, 2021; D Magazine, 2022; The Manufacturing Institute, 2023)

4.7. Human Resource Management (HRM)

HRM at Celanese strongly believes in creating a diverse and inclusive workplace which reflects in their policies and culture across the organization (BCP-Celanese, n.d.). Some of the key elements in their policies are listed (BCP-Celanese, n.d.) as follows,

- Fairness and respect.
- Zero discrimination among each other.
- Individuals are considered for career opportunities without discriminating factors and only justifiable based on their performance, experience, and knowledge skills.
- Fair treatment is ensured to all employees in terms of promotion, training, hiring, compensation, and legitimate termination in accordance with the statutory HRM system, processes, and policies.

HRM team continually strives hard in creating a respectable workplace by embracing DE&I, a safe environment without harassment (sexual or otherwise), protecting employees, and fostering their growth (BCP-Celanese, n.d.). In terms of further policies, Global Diversity, Equity Inclusion Council designed cardinal actions for creating an inclusive and respectful workplace. To strengthen this culture, the council focuses on five guiding principles such as recruitment, representation, retention, respect, and reputation (“Human Capital Report”, 2021). In summary, the company focuses on the below actions in sustaining a diverse and inclusive work environment.

- Reputation is always maintained as an employer of choice. This is reaffirmed by the equity in gender or race or ethnicity. With the help of a third party, an annual analysis is conducted to make equitable decisions (“Human Capital Report”, 2021).
- Promotes a culture of respect through respectable workplace workshops, conducting unconscious bias training, and group discussions.
- Focusing the recruitment using a diversity recruiting strategy to attract people from a diverse pool of talents and also encourages students to internships, leadership development, and mentoring opportunities (“Human Capital Report”, 2021).
- Retention of top talent is maintained by creating a respectable workplace and is evident with a lower attrition rate of 6% during 2021 (“Human Capital Report”, 2021).
- Representation of people from diverse backgrounds is encouraged throughout the company. Representation in terms of gender, race, color, and ethnicity is supported across the world.

Along with the HRM process and DE&I initiatives, the company fosters employee growth and professional development by creating a wide range of opportunities. HR Talent management team focuses specifically on these aspects for learning and development (“Human Capital Report”, 2021).

4.7.1. Leadership Development

The leadership development is driven by the HR talent management team and DE&I is integrated into the company from the top management (Sustainability-Celanese, 2023). Thereby, the diversity and inclusion at the executive board and leadership levels have improved leadership development across the company. The primary goals in creating inclusive workplace demand for creating opportunities and fostering employees with collaboration, career advancement, and leadership development. This can be maximized by enabling resources and necessary tools for career growth (“Human Capital Report”, 2021). The HR Talent management team’s strategy and development actions aim for a measurable approach to improving talented people’s performance and supporting professional development. As a performance-driven company, the annual objective setting for employees is designed in a manner for meaningful goals and open feedback discussions (“Human Capital Report”, 2021). It is always in line with the company’s values and vision which is strengthened through regular manager and team member discussions. An annual global talent planning process is in place to assess existing and upcoming talent which is essential for the company. Senior leaders are part of these decisions to enable successful business strategy by developing leaders for critical roles and informed with the Board of Directors (“Human Capital Report”, 2021).

As part of leader development, the Human Capital strategy approach is found important in the company. “Leading@Celanese” framework acts as the foundation for the leadership development approach. It defines the competencies, key attributes, and other traits of a great leader. As per the Celanese framework expectations are considered for thinking ability, strategic actions, initiatives, execution style, and leadership behaviors like flexibility, credibility, and valuing diversity (“Human Capital Report”, 2021). This framework “Leading@Celanese” inspires employees at management levels for stronger engagement and development as a leader. So, the leadership programs support the development of employees in management positions and are extended to different domains including manufacturing areas. The learning journey as role representations are considered as facilitation in these programs for benefiting people leaders’ development (“Human Capital Report”, 2021).

The Leadership Program

The Talent Management team drives leadership development through leadership programs and strategies across the organization to retain talents. This highly focused team towards leadership is attained

due to the involvement of BOD in the company's leadership development (Sustainability-Celanese, 2023). The gender parity achievements in BOD since 2019 and inclusive leadership from Mark Rohr in creating "One Celanese" had strengthened the organization to focus on leadership as one of the core success elements (Celanese - Investor Relations, 2020).

The leadership program is apparently for every leadership level comprising of hybrid mode activity. In the year 2020, the overall duration for the program counted for 16000 hours which has an average of three full workdays ("Human Capital Report", 2021). Also, leadership webinars are conducted across the organization enabling best practices for daily working and improving the leadership impact. Around 175 leaders globally participated in each leadership topic as a series during 2020 ("Human Capital Report", 2021). In 2019, the Celanese Community Impact Program was launched for leaders to experience an innovative leadership development experience from the community perspective ("Human Capital Report", 2021). This program focuses mainly on selecting non-profit organizations and tries to hone the leadership skills of people leaders to understand the community's needs. This is a six weeks program for the leaders to step out of their roles and involve in such non-profit organizations through capacity-building activities ("Human Capital Report", 2021). On the other hand, individual development as a senior leader is executed through leadership assessments and feedback along with target-oriented business projects. Also, an online platform was launched in 2020 to create a learning demand across the organization with people leaders or sole patrons ("Human Capital Report", 2021).

4.8. Competitor Analysis

The competitors vary across three core businesses of Celanese Corporation (refer Figure 28). For this gender equity analysis, two competitors are mainly considered from the Acetyl chain and EM business perspective which has major contributions to the organization. From the key competitor list considering both business domains, BASF, and DOW chemicals (Celanese - Investor Relations, 2023) are studied to understand their gender diversity and equity actions.

BASF

BASF is one of the biggest competitors with higher employee strength of 111,481 employees globally. Their organization focuses on improving the working environment for diversity and inclusiveness with 26% of women representation at the end of 2022 (BASF, 2023). Based on the Corporate Governance Report 2022, BASF has achieved 33% gender level for women representation at the Executive Board levels (BASF, 2023; BASF, n.d.-a) however it is less compared to the gender ratio for Celanese at this leadership level (refer Figure 30). In addition, factors considered in terms of gender, age, and international background for executive board promoting diversity concept (BASF, 2023). From DE&I actions, BASF has defined a road-map as shown in Figure 8 for an increase in women leaders across the company as 30% with disciplinary responsibility by 2030 (BASF, n.d.-b). Currently, the proportion of women leaders was approximately 27% represented globally in BASF by 2022 (BASF, 2023).



Figure 8: BASF roadmap to increase the share of women in leadership positions (BASF, n.d.-b)

Dow Chemicals

Dow Chemicals with more than 35,700 employees across 31 countries is another industrial leader competing with Celanese business domains (Dow Corporate, 2022). As of 2021, ID&E (Inclusion, Diversity, and Equity) initiatives resulted in an inclusive and diverse environment for Dow Chemicals globally. Inclusiveness is prioritized over diversity and equity with a top to down approach and bottom-up alignment is practiced across the organizational levels (Dow, n.d.). There is still a comparatively low women ratio at the executive board level which is around 33% (Dow Investors Relations, n.d.) compared to 35% of women in leadership globally (Dow, n.d.). Their gender ratio for women employees is around 29% globally (Dow Corporate, 2022). The company had incorporated ID&E objectives for annual performance targets for people leaders and directors (Dow Corporate, 2022). As part of ID&I strategy known as ALL IN 2025 as shown in Figure 9, Dow had set their targets for 2025 with expanding inclusiveness across the company which is believed to improve the diversity and equity in their process, practices, and policies (Dow Corporate, 2022).



Figure 9: ALL IN 2025 - Dow's strategy for Inclusion, Diversity and Equity announced in 2021

4.8.1. Industrial Benchmark

Based on the above sections, a quick comparison is performed as shown in Table 2 to understand the overall gender proportion in the organization and leadership levels globally. It shows Celanese with less employee strength compared to BASF and Dow Chemicals looks stronger in terms of women leaders across the company globally. However, there are no clear targets unlike BASF for 2030 and Dow Chemicals for 2025 considering gender equity or women in leadership positions. In addition, DE&I initiatives with ERGs and supplier diversity programs are found common across all these organizations.

Position/ Level	Celanese	BASF	Dow Chemicals
Executive Board	50%	33%	33%
Global People Leadership	38%	27%	35%
Global Women Representation	34%	26%	29%

Table 2: Overall Gender Representation and leadership levels - Competitor Comparison (Dow Corporate, 2022; BASF, 2023; BASF, n.d.-b)

4.9. Ethnography research

The ethnography approach through observation is performed inside the organization at the Amsterdam location and detailed analysis is both in global as well as Dutch context. As a global organization,

Celanese Corporation has developed its culture and ensures gender equality across countries. Further research is performed to analyze gender equality at various management levels and understand the improvement scope from possible equitable actions. Factual studies are performed at both the global level and at the Amsterdam office to understand the dynamics at the leadership levels. The company's culture promoting DE&I and organizational structure across business domains is observed for interpreting the gaps in gender equity at management levels.

4.9.1. Company Values

The company's values and vision have focused on safety and innovation during the early years. It is aimed to improve the company's culture, productivity, and performance, and gain positive results (Celanese, n.d.-d). Looking into the values today, Celanese focuses more on people and community compared to the early stages of business. It is evident that one Celanese culture has greatly impacted organizational values since 2013 globally. Until the 2000s, the company has undergone a lot of business transformations and acquisitions under various leaderships. However, the company's culture is driven towards DEI after the leadership of Mark Rohr as CEO in 2012 (Celanese - Investor Relations, 2020). His inclusive traits of leadership have restructured the company's values more oriented towards diversity and equity. It has resulted to succeed his leadership by Lori Ryerkerk as a women CEO promoting gender equality at the executive board level (Celanese - Investor Relations, 2020).



Figure 10: Transformation of Company's vision and values (Celanese, n.d.-d)

Since 2013, the company has valued people, customers, stakeholders, and the community emphasizing its vision towards DE&I. As a people-oriented company, these values have resulted in promoting gender equality across the organization. It further supports gender parity and equity at leadership levels (Celanese, n.d.-c).

4.9.2. Organizational Dynamics

The organizational structure follows a hierarchy at the leadership levels and it is spread across global locations. Refer Table 3 showing different leadership levels from 1 (L1) to 5 (L5) and their definition as low, middle, or top management in the organization. The organization consists of 8 business domains each led by people leaders at leadership level 1 reporting which is Senior Vice President reporting to the CEO as shown in Figure 11. Leadership level 1 (L1), shows better women representation around 38% leading business domains related to HR operations, Procurement, and General Counsel or Legal operations. The remaining domains such as Engineering Materials (EM), Acetyls, Finance, IT, and Manufacturing are still under male leadership in the organization (Celanese - Investor Relations, 2020). For confidential reasons, business domains are numbered from 1 to 8 as shown in Figure 11. Man-

agement domains such as Finance, HR, and Legal operations are Domains 1, 2, and 5. The rest of the domains are referred to as engineering domains such as procurement, EM, manufacturing, IT, and acetyls.

Level	Management	Roles & Responsibilities
L1	Top	As Senior Vice President (SVP) reports to the CEO and the people leader for each business domain.
L2	Top	As Vice President (VP) manages functional areas for each domain globally reporting to SVP.
L3	Middle	As a senior Director or Director manages each functional area regionally/ globally across each domain.
L4	Low	Senior Manager managing respective functional areas of each business domain regionally .
L5	Low	Managers supporting respective functional areas of each business domain regionally.

Table 3: Leadership Level definition at Celanese Corporation

As an organization, the company strives for promoting gender equality as a whole but it is not reflected across each business domain or function. Below leadership level 1, there is a considerable gap in gender representation especially for engineering domains like procurement, engineering materials (EM), IT, and acetyls at leadership level 2 (L2). This situation becomes still worse for leadership level 3 (L3) and there are more male leaders compared to female representation as shown in Figure 11. From the gender equity perspective, it shows management domains such as Global HR and the Legal departments are dominated by more women leaders further down leadership levels. This creates interest in understanding the motivational factors and leadership trends across other domains to promote gender equity. It adds to evidence that gender equality inside the organization still creates bias based on business domains and results still for male-dominated domains such as EM, Manufacturing, etc. This impact for representation of people leaders to be understood further at the regional level in the Netherlands for gap analysis and improvement scope.

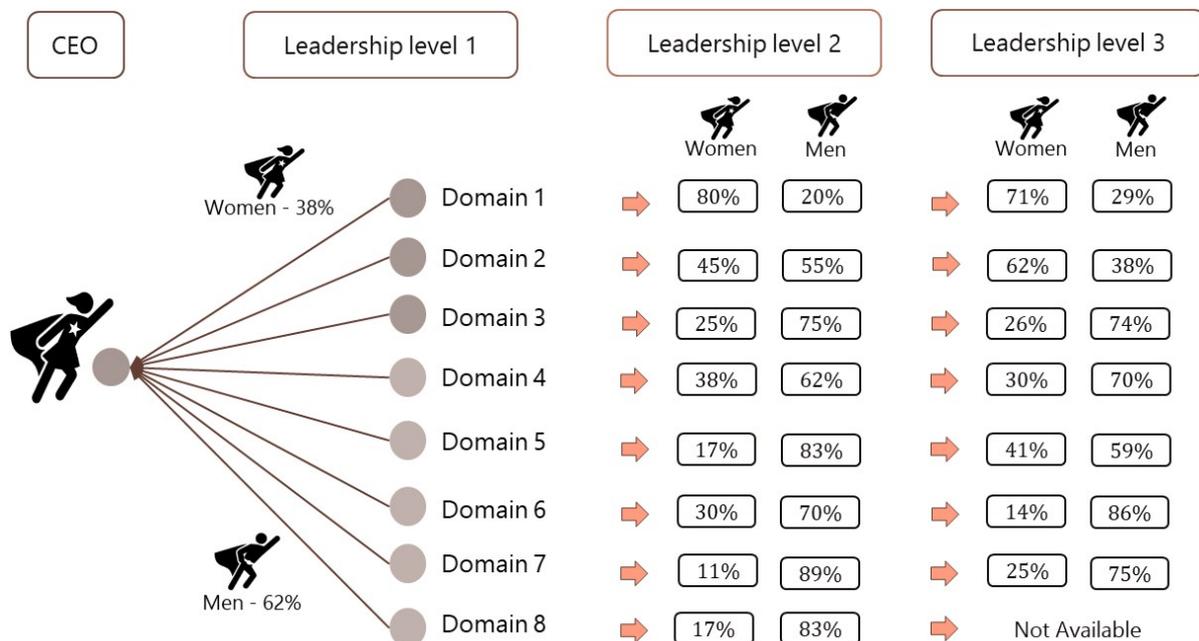


Figure 11: Global Organization showing the ratio of women leaders at Top management levels

Organizational Dynamics at Amsterdam

From a global employee strength of thousands, the Amsterdam office has considerable strength of around a hundred employees in 2023. The company at the Amsterdam location is so diverse that employee background comes from approximately 32 countries. It is so diverse with the gender equality ratio at the organizational level including all business domains is closer to 50% as shown in Figure 12.

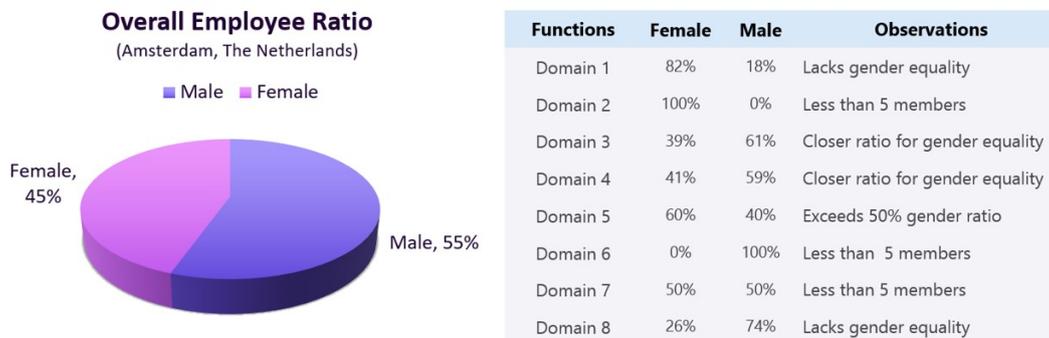


Figure 12: Overall employee ratio at Amsterdam location

However, this gender equality is inconsistent for each business and its functional areas. There is even gender imbalance for Domain 1 and Domain 2 whereas the rest of the domains still striving to close the gap to 50% gender ratios. The organizational dynamics are closely observed at the Amsterdam office to translate the leadership gender ratio at levels 2 and 3 as shown in Figure 13. Due to the size of the Amsterdam office, leadership level 2 is not representative of most of the business domains. Mainly management domains like domains 1, and 5 (HR, Finance) compared with engineering domains like domains 3,4, and 8 (Procurement, EM, and acetyls) show a similar scenario down the leadership level for lower women ratios as shown in Figure 11. This clearly synchronizes with the trend for women leaders such that the gender ratios are not encouraging (decreasing) at regional locations.

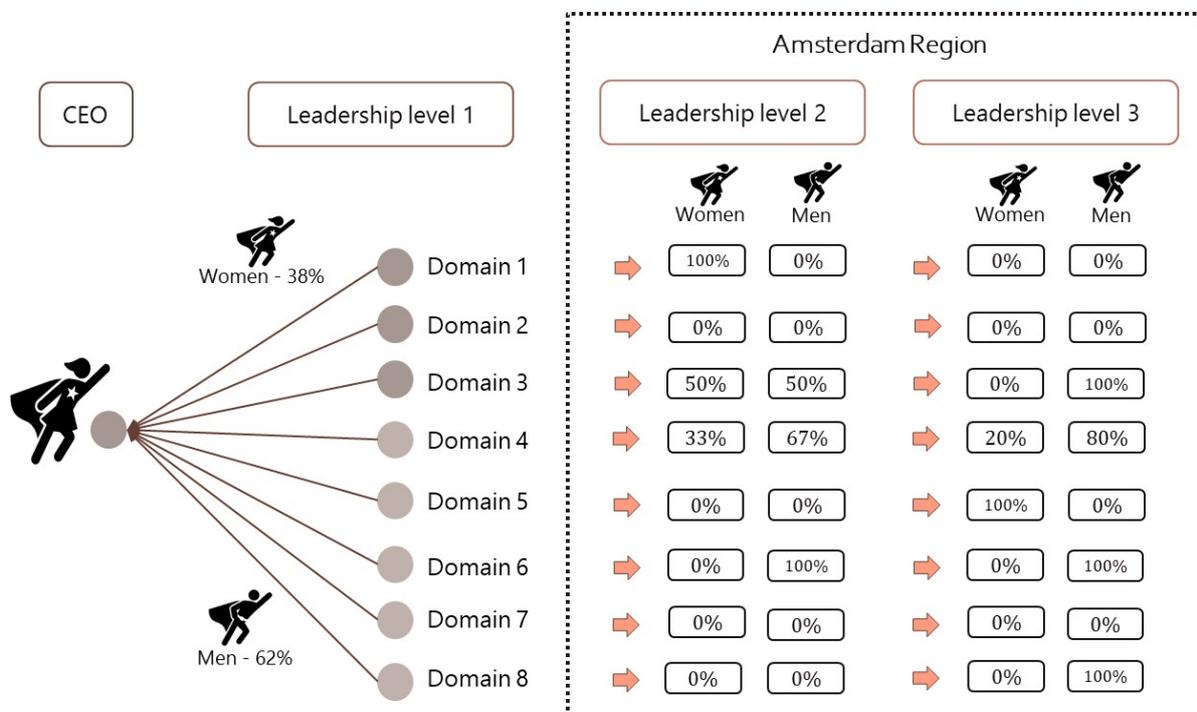


Figure 13: Regional Organization - Amsterdam location showing the ratio of women leaders at Top management levels

This observation study for gender levels at different leadership positions showed that there are fewer women at the L3 level and there is more women ratio under the management level (below L5) as shown in Figure 14.

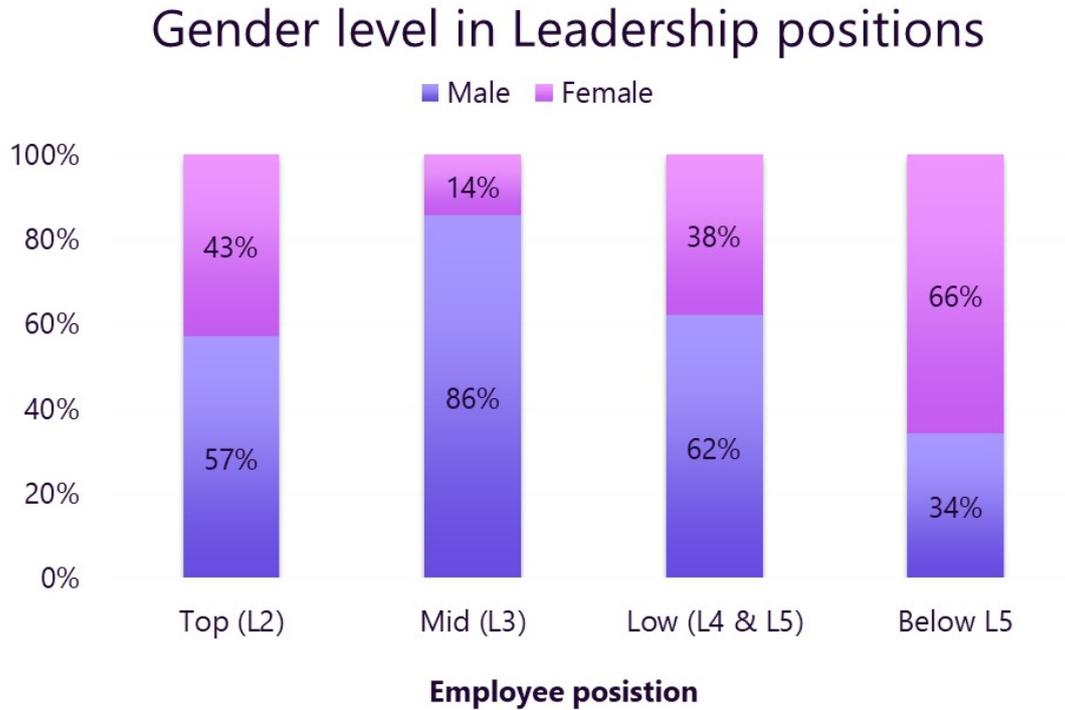


Figure 14: Amsterdam location showing the ratio of women leaders at different levels

This gender imbalance is not clear but there is a scope for increasing these numbers in the future based on the high women ratio below L5 which is the working level. Further breakdown across business domains considering all functional areas (like commercial, supply chain, development, sales, etc) is studied. The statistics recorded in Figure 15, show the gap for fewer women leaders, especially across engineering domains 3,4, and 8 (EM, Acetyls, and Procurement) compared to management domains 1 and 5.

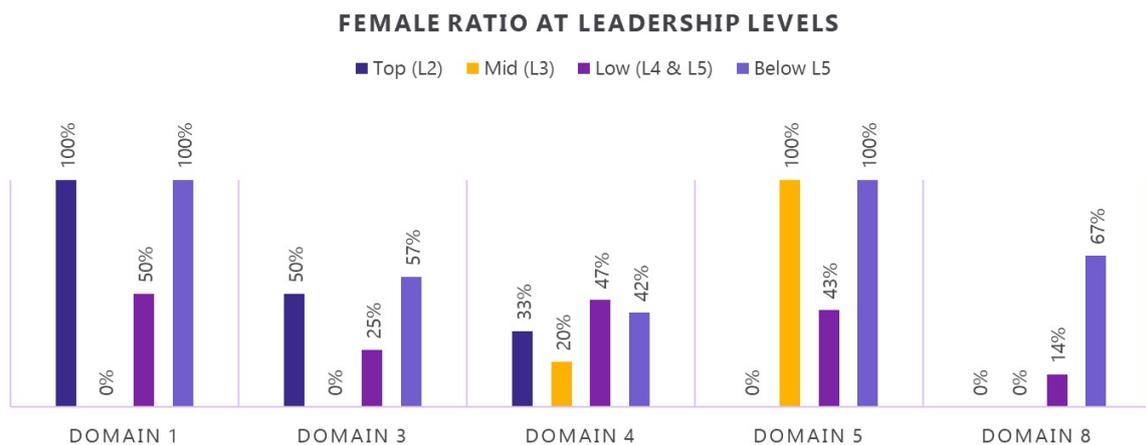


Figure 15: Women employee ratio for each business domain at Amsterdam location

These observations show that gender equality perspectives have to be transformed into equity considering the nature of business domains and leadership opportunities. Further trend comparison is

extended by understanding the competitor scenario for gender equity at leadership and organization levels.

4.10. Qualitative Research

A qualitative research study is executed as part of the case study targeting rich holistic data through interviews with employees at leadership levels. Further, focused group discussions are performed as part of group interviews in understanding different perspectives and diverse backgrounds.

4.10.1. Leadership Interview

The interviews are conducted for employees at leadership levels targeting top management mainly focusing on women leaders. There are 45 employees above the manager (L5) level at the Amsterdam location. Considering the work experience, sampling is done at L2, L3, and L4 levels (as defined in Table 3). Based on the research approach, disproportionate stratified random sampling is performed to have more women leaders for the interview at these levels. The sample size is determined considering both men and women leaders across these leadership levels as shown in Table 4.

Level	Total Leaders	Female Leaders	Sample Size
L2	7	3	3
L3	14	2	2
L4	24	9	3

Table 4: Sampling size for Leadership Interview

However, the gender priority for interview samples is focused on more women leaders. This is an intention to arrive at more data from female leaders in understanding the leadership program effectiveness in the organization. The total sample size is 8 employees spread across top and middle-management levels and their female proportion is 75% (6 out of 8 employees) as shown in Figure 16 for better data reliability. The interview is performed as semi-structured with a set of predefined questions under topics like facts, leadership, challenges, and future improvements (refer section B.1).

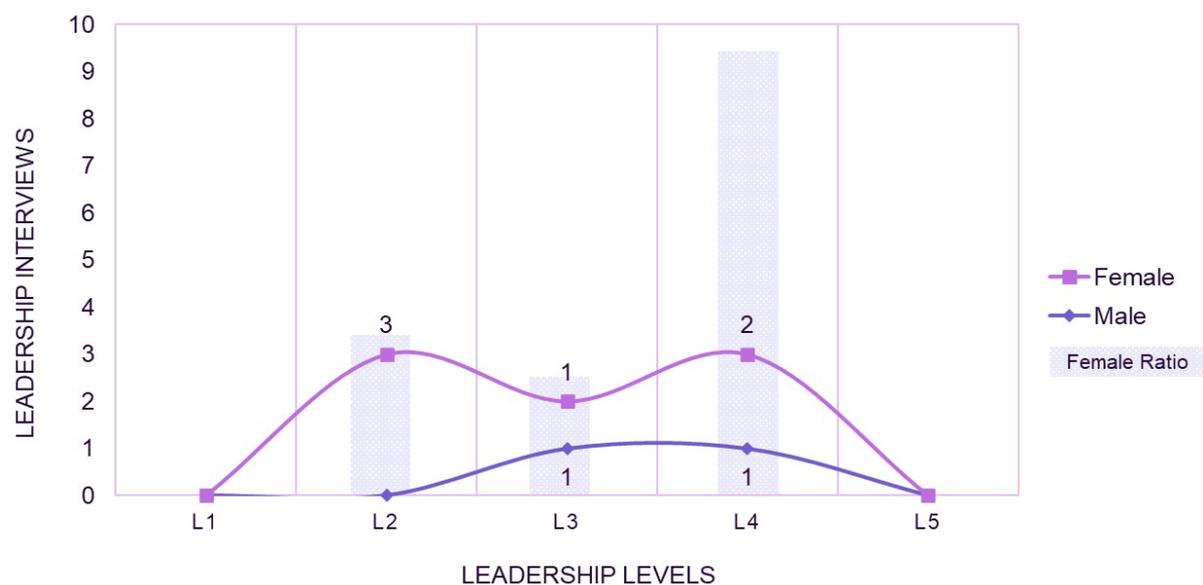


Figure 16: Female proportion for leadership Interview sampling

4.10.2. Focused Group Discussion

The focused group is considered in line with the research scope in determining the effectiveness of leadership programs for women employees inside the organization. Two groups are considered to

gain more insights by involving employees at low management and working levels. Also to bring more Dutch employees and HR context into the research for understanding local perspectives for leadership development. In the Amsterdam office, the Young professional and HR Talent Management groups are involved in focused group discussions. Below are criteria derived for selecting these focused groups based on the research scope in the company,

1. To have a mixed group of people from different domains and employee levels.
2. To involve employees from the team who organize and coordinate leadership training or programs.

Young professionals ERG focuses on development activities for young professionals and thereby it consists of employees at different levels with diverse backgrounds. On the other hand, HR talent management has much access to the existing and upcoming leadership programs both globally and at the Amsterdam location. This is expected to yield different viewpoints and insights for leadership development effectiveness inside the organization. The gaps and opportunities from an employee perspective for leadership programs with gender equity are discussed by these focused groups.

5

Results

5.1. Data Interpretation

The case study research by observational study and qualitative analysis is interpreted into leadership programs from a gender equity perspective based on collected data. Observational study data are collected through available internet and intranet sources inside and outside the organization. Data collection from qualitative interviews is performed in different channels through face-to-face and online discussions. Additional inputs on the leadership development program are collected using focused group discussions between two groups. The interpretation results for these collected data are discussed in detail in this chapter.

5.1.1. Observational Results

The results of the observational study are interpreted and analyzed in terms of organization and leadership programs. The company has realized that gender parity at leadership levels supports the promotion of diversity and inclusion inside the organization. It is evident with the gender ratio at the Executive Board and People Leaders levels of Celanese company. The companies represented at the top level generally perform positive business (Shenai, 2023) and this also applies to Celanese based on their business acquisitions or profits in recent years (Celanese, n.d.-a).

Looking into the organizational dynamics, policies, and competitive position, an Equity Development matrix is created for the Celanese organization as shown in Figure 17 to understand the company's focus versus efforts. The results from the observational study show that there is a biased situation in the organization when it comes to gender equity and leadership development programs accessible to all leaders at different levels. From the Figure 17, low focus and efforts for gender equity at leadership levels and leadership programs for all employee levels are reflected in the organization. This resulted in a decrease in the women ratio as the employee goes up to leadership levels as discussed before in Figure 14. High efforts and focus for gender equality and DE&I initiatives have created a diverse working environment but still gaps across business domains. For example, the HR domain has a higher and Acetyls have a less women ratio at the Amsterdam location.

If the gender equity and leadership programs for young women employees are not addressed, it may lead to equity imbalance in the organization. Also, recent research on the workplace in women shows a decreasing trend of women leaders for similar reasons like stronger supporting systems and gender equity at leadership positions (Krivkovich et al., 2022). However, the company has a high focus globally through various leadership programs, especially for L1 and L2 levels. This lies in the top left of the matrix as this needs low efforts inside the organization along with role model representation. The company put high efforts both globally and across regional locations through ERGS, training programs, and career development with a minimum focus which needs improvement.

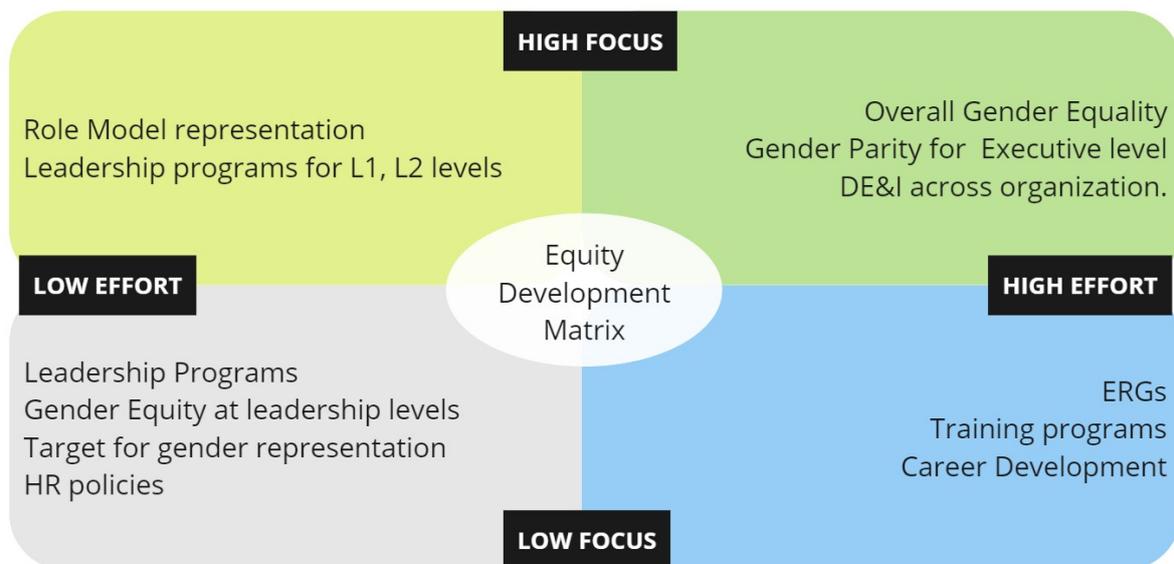


Figure 17: Equity Development Matrix derived based on focus versus efforts showing a current scenario of Celanese position across the organization

5.1.2. Qualitative Results

The qualitative data collected from leadership interviews at the Amsterdam location are summarized for relevant details pertaining to the research scope. The total number of respondents is 8 leaders (6 female and 2 male) and their summaries are further coded manually from defined categories such as leadership factors, challenges, leadership programs, organizational support, and future expectations for equity at leadership levels. The inputs from the interview data are coded, interpreted, and analyzed further to explore the improvement scope.

Interview Summary

The responses from leadership interviews are summarized based on the responses under different categories as in Table 5. This table shows the responses summary from each leader with respect to gender and leadership levels. As explained, there are a total of five categories as listed below discussed as part of the interview discussion for understanding gender equality and leadership development at this company.

1. Leadership driving factors
2. Challenges
3. Leadership development programs
4. Need for organization support
5. Future requirements

As a quick summary, the interview feedback can provide valuable inputs in understanding equity-focused leadership and the scope of women leaders. From these interviews, both male and female leaders have considered leadership traits or self-motivation to drive them to leadership levels in this industry. The summary shows that there are different leadership programs are introduced among different leaders inside the company. In addition, there is a different perspective among leaders considering even feedback and performance-driven objectives as leadership development tools. Looking into the key organization support, the predominant response demands flexibility (in terms of working hours, work arrangements etc) and supporting HR policies (like maternity, child care etc). Finally, the future requirements focus on more women leaders to promote gender equity at leadership levels. This also calls for improvement in HR policies and role model representation to motivate more women employees into leadership positions. Interesting responses are found about leadership styles and awareness of empathy traits of women leaders. This shows that existing leaders have alignment toward diversity

and inclusiveness to create a better workplace environment. They strongly believe that equity at leadership levels with more women leaders can create a diverse management force. This can bring better ideas and create an inclusive environment considering gender equity challenges at leadership levels. From these summaries, each category is analyzed further to prioritize the action items and generalize future improvements at the organizational level. In the following paragraphs, this has been elaborated in detail based on response summaries from leadership interviews. Refer Appendix B showing more information about interview discussion quotes summarised based on verbatim collected from these leadership interviews inside the organization.

Interview details	Responses summary
L2 (Female)	<ol style="list-style-type: none"> 1.Leadership Factors: Self-motivation 2.Challenges: No barriers 3.Leadership Development programs: Grow into leadership, Hogan Assessment, performance-driven 4.Organization Support: Flexibility, trust 5.Future Requirements: Need women leaders, Role model representation, diverse environment
L4 (Female)	<ol style="list-style-type: none"> 1.Leadership Factors: Role model, leadership traits 2.Challenges: Social and professional barriers 3.Leadership Development programs: Grow into leadership, WIN events 4.Organization Support: Flexibility, HR policies 5.Future Requirements: Need women leaders, HR policies, awareness, Role model
L4 (Female)	<ol style="list-style-type: none"> 1.Leadership Factors: Self-motivation, leadership traits 2.Challenges: Only professional barriers 3.Leadership Development programs: No programs experienced 4.Organization Support: Flexibility, Open discussion 5.Future Requirements: Need women leaders, work-life balance by HR policies, empathy trait
L2 (Female)	<ol style="list-style-type: none"> 1.Leadership Factors: Self-motivation 2.Challenges: Resolved social barriers, and minor professional barriers 3.Leadership Development programs: Finance leader program, women leadership programs/events 4.Organization Support: HR policies for training leaders 5.Future Requirements: Need women leaders, Role model representation, empathy trait
L3 (Female)	<ol style="list-style-type: none"> 1.Leadership Factors: Leadership traits 2.Challenges: Only professional barriers 3.Leadership Development programs: Coach for leadership positions 4.Organization Support: Coach/ mentor support 5.Future Requirements: Need women leaders, coach/mentor programs, leadership programs, HR policies, awareness, Role model
L2 (Female)	<ol style="list-style-type: none"> 1.Leadership Factors: Self-motivation 2.Challenges: Social and professional barriers 3.Leadership Development programs: Performance driven 4.Organization Support: Flexibility, trust, HR policies 5.Future Requirements: Need women leaders, Flexibility, emotional/ empathy trait, HR policies, Role model
L3 (Male)	<ol style="list-style-type: none"> 1.Leadership Factors: Leadership traits 2.Challenges: Only professional barriers 3.Leadership Development programs: Management studies, 360 feedback 4.Organization Support: Flexibility, HR policies 5.Future Requirements: Need women leaders, flexibility, awareness, empathy behavior, diverse environment
L4 (Male)	<ol style="list-style-type: none"> 1.Leadership Factors: Leadership traits, Self-motivation 2.Challenges: Only professional barriers 3.Leadership Development programs: Self-education, managerial programs 4.Organization Support: Trust from organizational maturity, awareness 5.Future Requirements: Need women leaders, HR policies, diverse environment

Table 5: Leadership interview summary showing the various factors to drive equity-focused leadership at Celanese

Facts and Factors

The respondents about the facts and factors driving the leadership levels are grouped under leadership traits, self-motivated, and role model as indicated in Table 6. Most of the respondents (n=8) show that leadership is dependent on individual factors that motivate or drives an employee to attain management positions. It is also supported by the performance-driven objectives of an organization that motivates individuals in progressing their career growth. On the other hand, business leaders acting as role models are believed to create an impact on motivating individuals to innovative behavior (Miao et al., 2018).

Leadership Factors	Number of Responses (n=8)
Self-motivated	5
Role Models	1
Leadership Traits	5

Table 6: Factors driving employees for leadership level - Respondents summary

But it is surprising to see that only one of the respondents considers role models as a key leadership factor in a company led by women CEO and people leaders. Finally, the rest of the majority of respondents are focused on leadership traits as a vital driving element in aspiring employees to push themselves for leadership levels. Based on the results about industrial experience as shown in Figure 18, there is a difference in feedback for the question about the time taken to attain their management positions. This is mainly to understand what these leaders feel about the time taken to reach their current leadership positions.



Figure 18: Industrial vs Managerial experience perspectives among the respondents

It is an open question to understand what the respondents feel about management or a leadership position. Irrespective of industrial experience, respondents who have self-motivation as a leadership driving factor considered a shorter period to attain their management positions rather than one reported role model as their driving factor. Female leaders in top management consider a long time for reaching leadership levels compared to male leaders. However, this comes from an individual perspective for attaining management positions inside this organization.

Challenges

As part of the interview questionnaire, the challenges part is targeted to understand the impact of social and professional barriers for employees to attain leadership positions. However, there was a new category as resolved by one of the respondents where alternative solutions are in place in overcoming these challenges. From Table 7, it is evident that there is data triangulation confirming fewer social barriers as most of the employees are driven by self-motivation or leadership traits.

Challenges	Number of Responses (n=8)
Social Barriers	2
Professional Barriers	7
Resolved	1

Table 7: Challenges or Barriers creating negative impact for the leadership career - Respondents summary

But there is a lot of scope and gap for leadership programs' effectiveness as interpreted from this section. As indicated, there are 7 out of 8 respondents feel professional barriers as a major hindrance in their career journey for attaining leadership levels in the past and future.

Leadership Development programs (LDP)

Among the leaders for this qualitative interview, a questionnaire of this part mainly focused on understanding the existing Leadership Development Programs (LDP) existing in the organization. The responses are grouped into several categories as shown in Figure 19.

Leadership Development Programs



Figure 19: Existing leadership development programs in the organization

This is also extended in understanding the other mode of development programs that acted as career aspirations. From the responses shown, the predominant response comes under the education category for those who have performed management studies before or during their professional career. So, the company has created opportunities to begin a career as a management trainee. Also, there are few mentor programs to support the leader in those positions. Inside the organization, "Grow into leadership" is considered as LDP but it is available only on a leadership or demand basis. The rest of the leaders are exposed only to a few women leadership programs or events. There is even a perspective of considering feedback tools like 360 degrees, Hogan Assessment, etc, and performance-driven objectives as leadership development tools.

Need for Organization support

The next set of questions focused on the lacking items for organizational support and their improvement in motivating employees at leadership levels. Further elaborating from Figure 20, HR policies in creating gender equity and women support systems during maternity, kids, immigration, etc are indicated by the respondents. The flexibility support doesn't stop with working hours or arrangements, it extends to mental flexibility for those leaders considering family-work scenarios, especially women leaders. Following these items, trust is expected the next significant factor in terms of support to the leaders.

This is directly linked with organizational maturity in terms of establishing equitable actions. Based on the responses from the respondents during the discussion, the majority of the leaders both male and female prioritize flexibility and HR policies over other items as indicated in Figure 20.

Organization Support

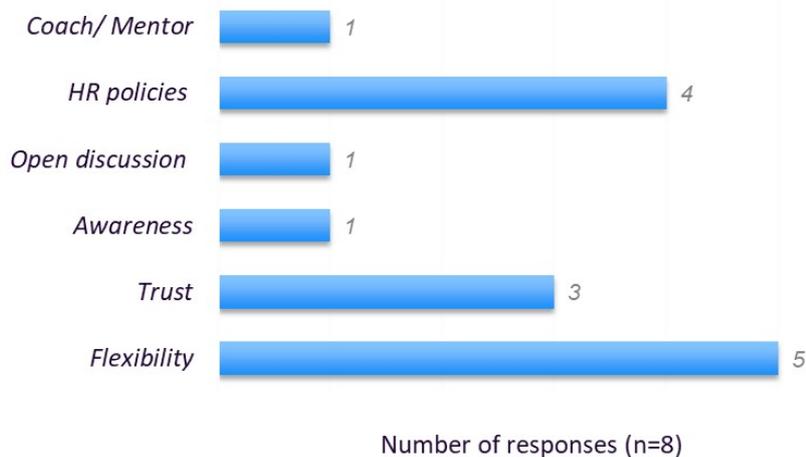


Figure 20: Need for organization support to support career growth and leadership positions

Future Requirements

Future requirements are the necessary systems or processes that are required to support gender equity at the leadership levels. It is aimed in understanding the need for more women at the leadership or management levels. As indicated in Figure 21, all the respondents were positive to have more women leaders in the future.

Future Requirements



Figure 21: Future Requirements to improve gender equity at leadership levels

This is mainly to support the DE&I working environment that leads to organizational success and a better place to work (Celanese, n.d.-c). Followed by this, HR policies that were raised in need of

organization support are reflected for future requirements to promote gender equity at leadership levels. In addition, there was an emphasis on role model representation for attracting young professionals and motivate more women ratios in management positions. Awareness is key in the future of gender and leadership styles, especially for empathy/ emotional traits for female leaders. After the diversity factor, Leadership or mentor programs are considered less impact in the future as the respondents themselves have not benefited much from these programs. There is a clear message from these discussions that leadership programs exist in the organization but are not widely accessible or beneficial to the employees. Also, there are various factors as hindrances in promoting such a development process for aspiring leaders in the company. In this consideration, further research is done by focused group discussions to confirm the results and triangulate the data for better reliability.

5.1.3. Focused Group Discussions

Focused Groups are intended to understand the viewpoints of a mixed group of people comprising different functional backgrounds and business domains. Also, it becomes mandatory to involve HR teams as one of the focused groups as the unit of analysis is LDPs. Among the different ERGs, the young professional is selected as one of the focused groups comprising 6 members with diverse nationalities (such as Dutch, Hungary, Turkey, and the United Kingdom). HR Talent Management with 3 members acted as another focused group providing inputs from HR perspectives. Refer chapter 4 showing more details on Young Professional (YP) ERG and HRM team involvement in LDPs. Gender inequality at leadership levels particularly at a middle level from the observation studies was evident during these discussions. It is a high risk in that kind of organization with gender imbalance or inequality at the mid-management level impacting the women ratio to the top management or leadership levels (Kuhlmann et al., 2017). The critical points from these discussions are listed below to conclude the discussion findings.

YP discussion

- Strongly believe in leadership programs to support gender equity to promote women leaders.
- Finds awareness as a key issue in the effectiveness of LDPs.
- Improvement for training programs with HR Talent management involvement.

HR discussion

- Consider LDP only on a leadership or nomination basis.
- Existing program as Leadership Essentials and new program "Develop Your Team" planned next year.
- No specific programs for women leaders and lack of awareness of leadership styles.

Employees from the YP group stressed about factors of reporting managers and his/her influence in motivating leadership opportunities. At least at the Amsterdam office, they find enough motivation created due to diverse cultures but there is scope for improvement. For example, external training and mentor programs can be good options to make women employees more comfortable to aspire for management levels. This raises questions about the budget and how it can be tackled in the future facilitating upcoming employees' progress to the next level. In this scenario, internal training and events can be possibly utilized with support from WIN ERG which works on women's empowerment. But the major responsibility for executing LDPs is under the HR Talent management scope. In overall, the group felt awareness is missing in the organization for such development programs and how it can be made available for women employees. This also provided insights for the group in considering equitable actions in such programs and promoting more women leaders for the company. HR Talent Management group clarified the existing scenario on leadership development programs. Awareness issue is acknowledged on LDPs among employees as this is only provided on a nomination or leadership basis. This explained clearly that development programs for leaders are only on a demand basis after attaining leadership levels. For example, the leadership essential program is in place to educate leaders both male and female in understanding six critical practices for management positions. But, these programs are gender neutral and there is nothing specific for women leaders at the moment. In a company with existing women leaders, there is a lack of knowledge about leadership styles and unique traits which get ignored in professional areas. There is additional information about the upcoming new

program called "Develop Your Team" but again it is designed only for top management levels. From a business perspective, HR management focuses on gender equality as a whole for the company, and equity perspectives are still a niche area. As a result of this discussion, outcomes are to consider the gender equity perspective with the future expansion of learning and development teams. As a quick win, the HR team can focus on creating awareness of existing LDPs for more nominations and awareness of leadership styles through training events.

From the comparison between the groups, Organizational causes, and effects are identified as shown in Figure 22 with common points.



Figure 22: Focused Group Discussion - Organizational cause and effects on LDP scope

Since HRM-focused development programs are only on a leadership basis with consideration for women’s perspectives, there is a lack of different leadership styles in the organization. This has resulted in more challenges faced in the professional environment among female leaders as discussed in subsection 5.1.2. Thereby, there is a lack of awareness of LDPs and equity at leadership levels which follows the decreasing number of women leaders from top to bottom levels in the organization. It is inferred that awareness of leadership styles and gender equity. A short summary is made based on key relevant points from both the groups and listed for better understanding in Table 8.

Young Professional (YP)	Human Resources (HR)
Lacking Awareness	No specific programs for women leaders
Need Inclusive and Gender Equity elements	To consider the Gender Equity perspective
Awareness of Leadership styles	Development programs are on a Leadership basis
Need to improve training/ mentor programs	Leadership Essentials Program – 6 critical practices
Need HR Talent management focus	Awareness of Leadership styles
YP/ WIN (ERGs) to initiate LDP for all levels	New program called "Develop Your Team"

Table 8: Focused group discussion on LDP factors and improvements

5.2. Final Results

Based on the data analysis of this case study research using rich qualitative and observational studies, the final results are concluded. From this research, gender equality in an organization does not really support gender equality at leadership levels. It is found that leadership development in this organization is not effective due to equity imbalance at all employee levels. From the various factors derived, leadership development by structured programs is impacted by different elements inside and outside the organization. These inputs are plotted to define a Leadership Development Cycle as shown in Figure 23 that plays a significant role in Leadership Development activity.

5.2.1. Leadership Development Cycle

In a typical organization, the effectiveness of LDP is influenced by different factors for employee motivation in the company. From the gender equity perspective, these factors have to be addressed by practicing equitable measures to increase women's representation. From the organizational structure at the Amsterdam location, gender imbalance was found one of the arising problems to promote gender equity at leadership levels. In recognition of equity and diversity, the gender balance of a business domain is much significant for the company's values (Cassells and Duncan, 2020). In this aspect, the factors for leadership development to transform into equity-focused mainly depend on the leadership development cycle as shown in Figure 23. The leadership development into equity-focused is depend on identifying individual factors, understanding their barriers, and strengthening HR policies to deploy mentor programs, and necessary skill-up programs in the organization. Addressing these factors in a cyclic process is expected for a better organizational scenario to achieve gender balance in every functional/ business domain at leadership levels. These factors depict each stage or process in this development cycle.

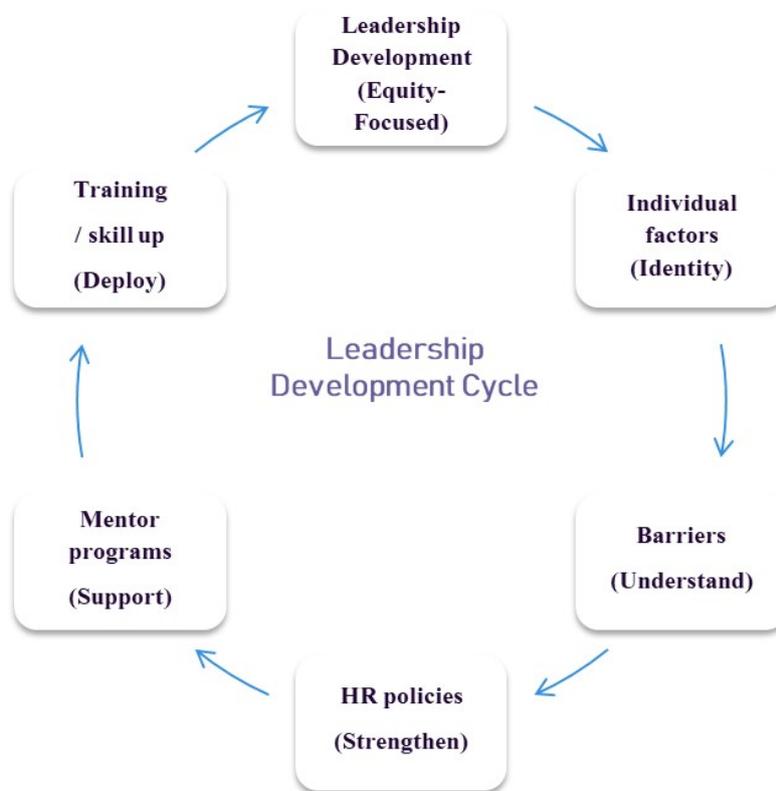


Figure 23: Leadership Development Cycle showing different process approach for effective Leadership development

Leadership Development

Leadership Development is required to be effective in delivering equity-focused leadership. This needs to be developed by undergoing the development cycle in addressing various factors, and barriers to strengthen the policies and supporting programs, especially for women employees.

Individual Factors

The individual factors related to the DE&I for an employee in terms of gender, culture, race, ethnicity, and professional background. This is the first stage in the process and is critical to imply equitable actions for the organization. In this stage, the organization should focus on identifying those individual factors.

Barriers

After the identification of individual factors, both social and professional barriers from a gender equity perspective can be focused. These challenges from cultural and diverse working backgrounds provide more insights into the problem area. Therefore, these barriers need to be understood in a company context that hinders employees' development as a leader.

HR Policies

Even though there are a lot of equitable actions and measures identified, they can be effective and improve trust when translated into HR policies. Based on previous stages of identifying the problem area for barriers, policies can be strengthened accordingly for improving the workplace environment.

Mentor Programs

Mentor programs are one of the development factors considered supportive system based on qualitative research. Considering economic and quick win, this program act as a catalyst for growing leaders at low and mid-management levels. It also helps to identify the gap and necessary skills required for further career growth.

Training/ Skill up

The previous stage of mentor programs helps in identifying gaps in required skills. This is incorporated in defining suitable training and skill-up programs that can be deployed for employees' career improvements.

After undergoing several stages of the development cycle, the employee at management levels can be introduced to Equity-focused Leadership Development Programs. Through this process, the problem areas are addressed by identifying the causes and fixing them at every stage. This prepares the employee with high motivation and makes it effective on LDPs execution to attain leadership levels.

5.3. Lessons Learned

From this case study research, lessons are learned from both observational and qualitative studies. The organization lacks a system or process-driven approach to address leadership development down the employee levels. There are plenty of LDPs across the organization scattered in different locations. Awareness is one of the key issues despite many ERGs operating across the organization with ONE Celanese culture.



Figure 24: Lessons learned for effective leadership programs from gender perspectives

The learning and Development team is not distinct in the company for accessing such development programs for which HR Talent management is working on. The big lesson is that the company focuses on promoting gender equality and equity without motivating or supporting policies. This is reflected in qualitative research for respondents highlighting more professional barriers than social barriers. In comparison with competitors such as BASF and Dow Chemicals, there is more awareness for DE&I inside

the organization through various measures. Few of them are performance objectives set from DE&I perspectives and targets set for increasing women's representation at leadership levels (Dow, n.d.; BASF, 2023). In this scenario managing leadership development through effective programs is impacted by a lack of awareness inside the organization. To elevate leadership with gender equity, Celanese needs to create more awareness for DE&I in line with the company's values through benchmark actions. As lessons learned, it can be visualized in Figure 24 that awareness is the key improvement action. This approach helps to understand the scope of gender equity at different leadership levels. Indeed, these lessons will get translated by the HR Talent management team in making the LDPs more effective inside the company.

6

Discussion, Limitations, and Recommendations

This chapter describes concisely the key insights from the case study research. The critical observations are summarised in a descriptive way and various perspectives of gender equity are perceived in the organization. Also, the practical and theoretical implications of an organization and future perspectives are discussed. Then the limitations are elaborated for possible areas in improving this research at the organizational level. Finally, recommendations are defined based on the current situation and scope for future research extending this topic from an innovation perspective.

6.1. Discussion

This research aimed in analyzing the effectiveness of leadership programs to promote more women leaders. The actions taken by an organization for gender parity or equity at leadership levels would fail if there are no deliberative efforts taken for their rights, needs, and policies to create an equitable environment (Janssens and Zanoni, 2021). As discussed in the literature study, the social and professional barriers are evident in the organization, concerning the impact of gender discrimination in leadership roles (Fitzsimmons and Callan, 2016).

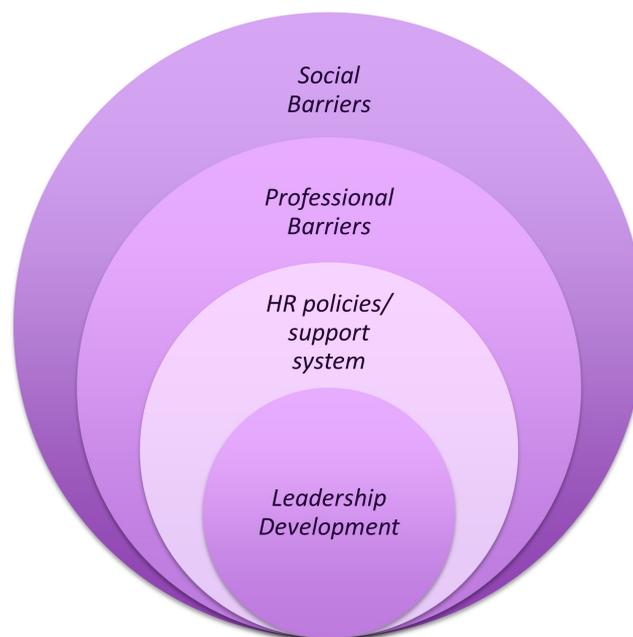


Figure 25: Core Elements of gender equity at leadership levels

However, in this case study, professional challenges in terms of bias, and gender imbalance across teams are found serious issues compared to social barriers. The various discussions with WIN ERG and interviews with women leaders found that there are more layers outside leadership development for an employee as summarised in Figure 25. Based on respondents' feedback in qualitative research, it is evident that social barriers still lie outer and professional barriers lie closer to the core element which is leadership development. Further discussions on existing support systems, it is strong feedback from leadership and focus group discussions about a lack of HR policies or support systems for women employees. This is considered a critical element as it directly impacts women employees checking out at early phases and impacts the company's retention rate. In summary, the effectiveness of leadership development is much influenced by these elements in enhancing gender equity at leadership levels. In the organizational context, these elements can be further broken down for barriers.

6.1.1. Equity Relation

An equity relation at leadership levels is studied based on responses concluded on the future requirements for a materials company. As analyzed, the equity relation shows that there are factors at the leadership levels and their impact level to enhance gender equity inside the organization. However, the level of impact varies in the organization as direct or indirect influencing the leadership development from a gender perspective. There is no emphasis on the LDPs as the real-time effects are delineated towards the workplace environment. A similar study in the medical industry also shows that policies and tools are considered as initial steps for advancing gender equality (Kuhlmann et al., 2017) and then the equity in the workplace.

Direct Impact

- HR Policies
- Awareness
- More Women Leaders

Indirect Impact

- Role Model
- Empathy Trait

In further analysis, it is found that awareness of DE&I initiatives across different locations and all employee levels has a direct impact on gender equity at leadership levels. Finally, the increasing number of women leaders by creating equal opportunities in each functional area inside the company impacts leadership development positively. From the case study analysis, it is inferred that the company has focused on role model representation at executive levels but it has only an indirect impact on developing more women leaders. Finally, the empathy trait of women leaders as reported during the case study is believed to bring more success in inclusive and diverse workplaces. This encourages the employee's consideration for different leadership styles and inclusiveness bringing justice or equity inside the organization. These actions focusing on creating equity and justice inside a company develop the motivational factors for employees and improve their innovative behavior (Young, 2012).

6.1.2. Implications

From this thesis research, the leadership development programs and their effectiveness in an organization are studied from a gender equity perspective. The practical implications of identifying the problem area and making effective LDPs result in positive implications for a materials company. Creating effective development programs in Celanese with gender equity elements brings awareness about different leadership styles and enables leaders to create better opportunities for women employees at low or mid-management levels. This will break of the glass ceiling for women employees considering masculine traits associated with leadership. In this way bringing more women ratios into the business domain enables a much more comfortable workplace for existing female leaders. For example, the EM business domain with a lower women ratio (as discussed in chapter 4) brings tough situations with professional barriers and hinders them from making stronger decisions in critical business meetings. This scenario may get eased when there is more than one woman in such a meeting forum and enables

equitable contributions with valuable business inputs. Also creating awareness about different leadership styles, especially on empathy or emotional trait of women leaders (from chapter 5) gives room for consideration from reporting employees and eradicates misunderstanding of them as weak leaders. This is much more important in creating an inclusive environment with a company like Celanese which have such a diverse working environment and better gender equality ratios.

On the other hand, the theoretical implications result in creating a stronger learning and development team inside the organization. Thereby, the LDPs on demand or leadership basis will be process driven as a supply factor rather than a demand factor in the company. The effectiveness of LDPs over the years can be validated by an increase in career opportunities for leadership roles. It can result in different stages of the leadership development process split into small training sessions, mentor programs to HR policies in facilitating gender equity at leadership levels. Annual training plan and budget would be on the company's objectives to enforce these LDPs across the locations. In short, Celanese can benefit by putting streamlined actions against their competitors by setting targets on gender equity levels for each business domain and achieving at a faster rate through effective leadership programs for women employees. In the near future, these are the possible implications for Celanese as a typical material company based on the results driving their vision which is a better tomorrow through chemistry and innovation (Celanese, n.d.-d).

6.2. Limitations

The limitations of the case study mainly related to organizational inputs in terms of employee background and career growth in the company. Since this company's location at the Amsterdam office is so diverse with 32 nationalities background, it is limited to understand the Dutch perspective on leadership development in this organization. However, this limitation is partially resolved using focused group discussions bringing Dutch perspectives. From the organizational angle, there are limitations to accessing the company structure both globally and regionally as there are no readily available data internally. Transparency or structured processes missing inside the organization limited this research in reaching a wide range of participants. Thereby survey method to involve a large number of participants inside the organization is limited for this case study.

The complete research only relies on interviews, group discussions, and observational studies. Further, the employee recruitment and retention rate from a gender equality perspective is not accessible due to the company's privacy. This limitation could not able to support further research in understanding the trend of women employees checking out the company at various employee levels. The time constraints and availability of leaders at top management positions are another issues because of the company's recent acquisitions. This is limited to the involvement of more members in the research at the company level. Finally, the ERGs at the Amsterdam location were found biased toward the organization and lacked open discussion at leadership levels limiting WIN ERG as part of this research. WIN ERG focus on women's empowerment and gender equity but still, there is a limitation in creating open discussion forums and a lack of feedback mechanisms in Amsterdam location. This limited an understanding of the ERGs' journey and their progress for any organizational improvements. Overall, these limitations had an impact on finalizing quick actions needed to address leadership development with gender equity.

6.3. Recommendations

Based on the final results and discussions, this case study research enabled to the identification of the factors for the leadership development of women employees inside the organization. The company performs well in gender parity at the top, women's representation, and gender equality across different countries. In Amsterdam location, the company focuses only on gender equality but not at various employee levels for each business domain. There is a lack of awareness about gender equity despite of their values aligned towards diversity and inclusion. As a result, the main recommendation is to promote gender equity inside the organization from the entry to exit process. Gender parity at the leadership levels has to be converted into gender equity for each business domain. In this workplace with gender equality, there are issues such as gender treatment, bias in organizational events,

and career opportunities. This leads to hard choices for employees in reporting such issues inside the company (Ashford et al., 1998). Several times, there is evidence showing struggles faced by women in gaining opportunities at leadership levels and women changing or leaving jobs. Thereby gender equity becomes a significant approach for such organizations (Ashford et al., 1998). Therefore the gender equity measures for both genders transform the workplace into more supportive of women employees and their career development. The leadership development programs become effective in organizations with such equitable actions sooner. There are various initiatives across institutions to enforce DE&I culture under STEM (Science, Technology, Engineering, and Math) disciplines and improve women's participation in leadership positions (Bilimoria and Singer, 2019). HR Talent management at regional locations is recommended to encourage recruiting people from STEM backgrounds (similar to global Headquarters policy as mentioned in "Human Capital Report", 2021) for improving gender equity in engineering business domains. Gender Equity measures promote more women employees in leadership positions driven by such development programs. However, there is further scope in the future in driving gender equity for transforming the organization into an innovative workplace.

6.3.1. Leadership Framework

Based on this case study, a leadership framework is created for Celanese considering the scope of employees' career growth in an organization and motivates further for women leaders to pursue leadership roles. However, this can be generalized across any organization where gender equality ratios are promising and looking for gender equity at leadership levels. This framework is considered at two levels which are at leadership and the organizational level as shown in Figure 26.

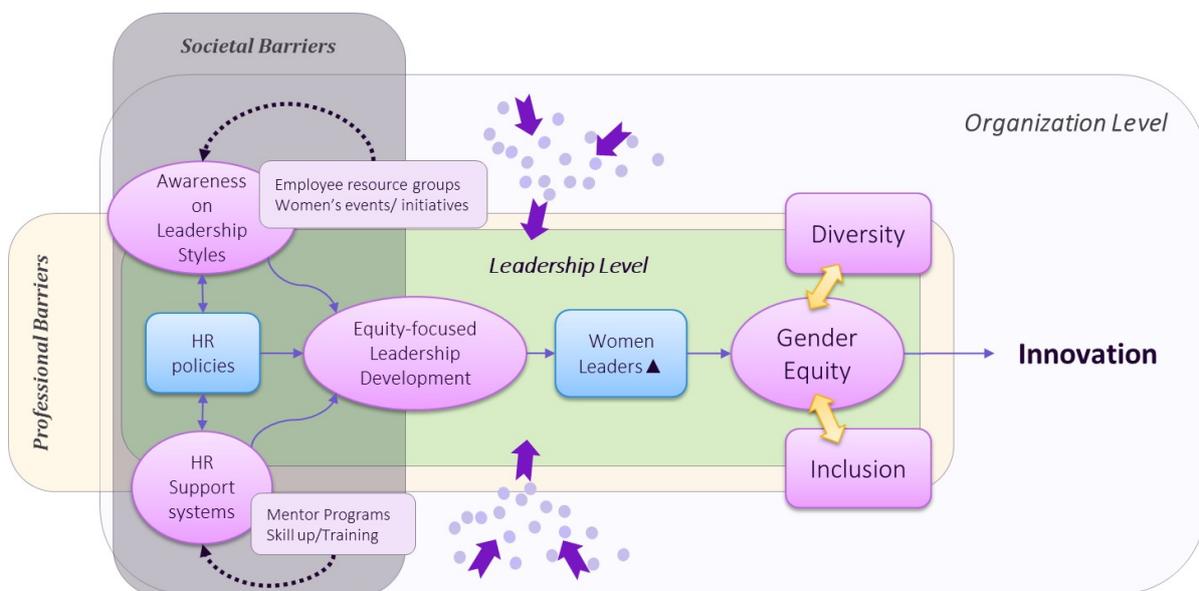


Figure 26: Leadership Development Framework from the gender equity perspective

Leadership Level

At the leadership levels, the major elements to promote equity-focused leadership development depend on the following to promote more women leaders.

1. HR policies
2. Awareness on leadership styles
3. HR support systems

By incorporating these elements together with equity-focused leadership programs would result in gender equity along with diversity and inclusion at leadership levels. In any organization, the leadership development for increasing women leaders needs maturity in enforcing HR policies that facilitate

women employees such as gender equality. For example, recruitment policies are made for STEM disciplines to increase the women's ratio in such business domains. In parallel awareness of leadership styles for women employees and support systems like flexibility in working, inclusive teams, etc are essential for motivating employees for encountering leadership development. Through this approach, there is women's representation in the leadership levels that translates gender equity into the leadership level. With direct effects of diversity and inclusion, this results in creating an innovative workplace. But this process stops further for increasing women leaders when there is no consideration for equitable actions beyond organizational levels.

Organizational Level

At organizational level as shown in Figure 26, gender equity perspectives are taken into account that is beyond the leadership levels. The major elements at these levels depend on following to promote or motivate women employees for leadership levels.

1. Barriers (both social and professional)
2. ERGs and women empowerment initiatives
3. Mentor and skill up programs

From the organizational level, the framework shows that societal and professional barriers act as major hindrances in promoting leadership development for women employees. The gap and communication between these levels are created by such barriers in an organization. Organization maturity pitches in this stage to address such challenges from DE&I initiatives. The awareness of leadership styles has to be streamlined using ERGs and several women's events or initiatives inside the organization. Similarly, HR support systems are extended further to establish mentor and skill-up programs for all employees. By this extended approach considering the key challenges, there is a pull effect created which motivates women employees to gain confidence for leadership development. There is a pool of employees indicated in arrows as indicated in Figure 26 moving from organizational to leadership level by this pull effect creation. Thereby increase in more women at leadership levels through effective LDPs enable a strong equity scenario. Along with diversity and inclusion targets set for the company, it brings diverse leaders with inclusive behavior elevating innovation and thereby business growth.

6.3.2. Future Research

Scope

The future scope of this thesis research expands to diversity and inclusion at leadership levels. Gender Equity can enhance leadership management with both male and female employees but however there are challenges considering diverse backgrounds. Leadership traits on inclusion can be improved but still these factors on diversity and inclusion impact decision-making in an organization. This may lead to innovation growth in the company either in a positive or negative way. An innovation roadmap has been proposed accordingly for the future scope of an organization's leadership development from a DE&I perspective as shown in Figure 27.

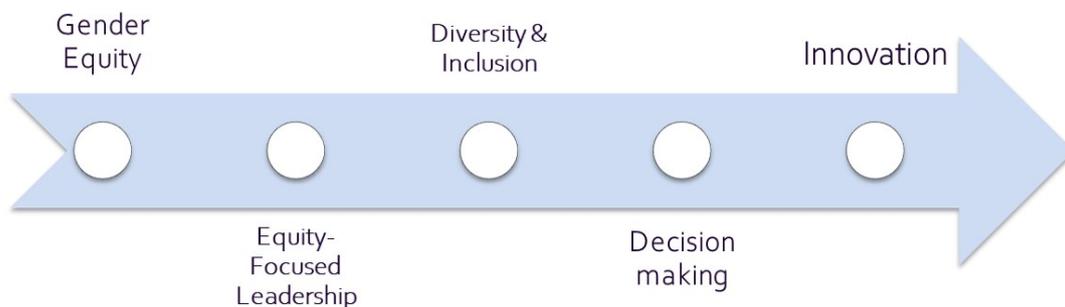


Figure 27: Innovation Roadmap based on DE&I at Leadership levels

Leadership Development with equitable actions brings a more diverse and inclusive work environment. But the scope for decision-making in the future decides the innovation level for their business growth in the industry. In the business domain, the decision-making process at leadership levels can be improved using the inclusion trait allowing diverse ideas into the forum. Inclusive leaders ensure justice in a diverse team and support equity. Thereby there are more contributions from individuals to the decision-making process (Randel et al., 2018). Gender perspectives are made comfortable in such decision-making forums based on the above discussions but the impact on innovation needs further research. Hence, the Decision-making level of impact from a gender perspective at the leadership level would be critical research for the future.

Challenges

Future challenges can be expected when an organization progresses toward gender equality and equity-focused leadership. This can impact the decision-making process at leadership levels and acts as a roadblock to motivating more women leaders. From interview discussions, 1 out of 8 leaders (refer section B.7) mentioned unconscious bias among the same gender due to societal stereotype issues. In such occasions, intuitive judgments arise either accidentally or from stereotype issues that can impact the environment negatively (Bohnet, 2016). In an organizational context either regional or global level, there is possible unconscious bias at least for a few years in business forums. For example, business meetings, panel discussions, and key decision-making processes could go ineffective with the biased situation from the same (female) gender. This can be crucial in women encouraging other women through role model representation and acting as a driving factor for leadership. Still, there is a very vague topic but can still be a challenging factor for an organization promoting gender equity at leadership levels.

6.4. Conclusion

This thesis research looked into the gender perspectives for leadership development and its effectiveness in the organization. It further focused on the goal to understand gender equity enhancement at leadership levels by increasing the women's ratio in these positions. As a case study approach, the research aimed at addressing the challenges of LDPs and barriers at management levels to conclude the effectiveness of LDPs for women employees. From the results and discussion, the findings of the research listed the critical factors that act as a barrier to accessing leadership positions and career growth. In the case of a typical materials company in Amsterdam location, the women encountered professional barriers such as bias in decision-making, career opportunities, and gender discrimination during their career journey. There are several reasons but most of them are grouped under the lack of supporting policies for women employees in the organization.

In conclusion, trust and openness can be inferred as key element in the organization that needs improvement at the management level. The qualitative study played a vital role in understanding the existing challenges in leadership development programs. Both interviews and focused groups confirmed that awareness about such programs is one of the biggest challenges for accessing LDPs. This is mainly due to a lack of stronger learning and development team inside the organization. Further research shows that there is a misinterpretation of responsibilities created among ERGs and HRM for executing such leadership development programs. This concludes that the organization provides leadership programs only on a consideration or demand basis which has proven a big challenge for aspiring women employees for leadership levels. Thereby, the DE&I elements missing in such programs create a gender imbalance of leaders in different business domains.

Finally, the effectiveness of leadership programs for women employees was found ineffective based on the final results. There is a gap and communication issues between leadership and organizational levels which makes LDPs less effective. This makes the workplace lacking in equity and an inclusive environment to promote women employees for their career aspirations. The practical and theoretical implications showed the scope of making the organization perform better by leaders with equitable actions to improve innovation and business profits. Based on these findings and implications, a leadership framework is proposed to make leadership development more effective and act as a driving element for increasing women leaders. This framework with strong initiative and targets from the DE&I

perspective helps to support gender equity at leadership levels and impact innovation more positively for an organization. The future scope of this research shows that there are more opportunities in the future in strengthening the decision-making process at such equity-focused leadership companies. In summary, the overall case study resulted in creating a positive impact and the results are presented to the organization for considering practical implications there onward. This is expected to progress further by sharing research recommendations in global forums of the HR Talent management team and deploying the improvements to achieve Equity-focused LDPs across the organization.

7

Thesis Reflection and Impact

This chapter discusses the overall journey of the thesis research as a case study for an organization. In addition, the thesis impact during this research journey is discussed briefly showing the successful milestones in penetrating the research objective as real-time actions for Equity-focused leadership programs.

7.1. Thesis Reflection

This thesis research started with a vague goal of women's leadership development and scoped down to understand the leadership programs focusing on gender equity in a company's context. Rather than choosing a qualitative approach, the research methodology of the case study created opportunities to collect data from various channels and observations inside the organization. In real-time business, understanding the journey of the company, its leaders, and transformation showed how leadership development across the organization brought innovation and profits. It is inferred from the company's history through merger and acquisition as strategic business decisions expanding their product and business areas.

The problem area prevailing in this company helped to identify the root causes and their connections for future improvements. As a women-led organization, the company witnessed the positive impact of a better gender ratio at the people-leaders level. The surprising element from this thesis research showed that the social and professional barriers for women leaders are mainly from other women employees. This showed how ineffective the leadership programs were in making female employees realize the positive effects of women leaders. Thereby both equity and leadership styles need to be an integral part of such development programs across the organization. Addressing the problem at the company level reflected the scope of demand and accommodate more women employees to leadership levels as gender equality in the organization gets better. Otherwise, this will lead to an organization where women continue to occupy so-called office jobs like HR, Finance, IT, or legal departments rather than spread across core engineering departments. So this bias prevails in the organization if not gender equity is not promoted at leadership levels. This shows how the future can be improved by more women leaders at the management levels influencing better decision-making and resulting in healthier workplaces. This strategy is similar to the concept of open innovation where the forum is opened to bring different ideas from various perspectives. Leaderships reflecting the society with gender equity levels can result in sensible decisions for making sustainable and innovative businesses.

This research is considered critical and crucial as there is always a need for continuous improvement by tracking the results against leadership development. With the rapidly changing world, there are various factors that can impact equity-focused leadership levels from a digital and technology point of view. So, there is more scope for future research in experimenting with the leadership framework and effective LDPs across different industries. Also, the decision-making process of women leaders and their influence on business from an innovation perspective can be a future topic. The learning from this thesis research as discussed in this chapter enabled in implementation of research methods and

strategies in arriving at final results. The insights showed how the leadership and equity levels are interconnected in an organization's context for innovation and positive business outputs.

7.2. Thesis Impact

From this thesis research, the company's support and reactive measures showed how the case study positively impacted the organization. From the ethnography research point of view, the company got motivated by the thesis research objective such that various opportunities were created to involve the researcher in every aspect. The introduction about the research support is communicated across the organization and involved the researcher as part of WIN ERG. Thereby, the company could showcase its interest in gender equality and equity measures inside the organization through this thesis research. This is further enabled for leading International Women's Day events inside the organization and understanding the employee's understanding of gender equity.

As a result, the leadership team could able to understand the research intention, and a strong network is established for conducting qualitative research at the Amsterdam location. HR Talent management is very much attracted to the research which is reflected in their extended support for identifying key leaders and questionnaire content for Leadership interviews. The strong network and the curiosity of women leaders for gender equity are reflected in open discussions with a male researcher. For example, a women leader could able to express freely on her social (like personal family issues) and professional barriers (discrimination, race, and culture issues) linked with intersectionality factors. This gave a positive surprise for the researcher how open the answers are in terms of gender equity issues and leadership programs inside the company. This helped in understanding the relationship between gender equity and the ineffectiveness of leadership programs.

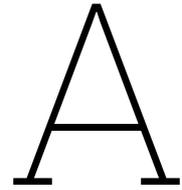
Similar responses and openness were reflected in focused group discussions between the two groups. This strengthened the reliability of data collection and their results positively correlated with each other. Based on the leadership interviews and focused group discussions, the employees could able to sense the importance of LDPs from a gender equity perspective. Thereby, WIN ERG focused on understanding the research results and requested to present the research outcome within the organization for creating awareness of Equity-focused Leadership. On the other hand, the HR talent management team was keen to take this research results and recommendations to the global level discussions for enhancing Leadership Programs from an equity perspective. This thesis research has created a ripple effect inside the organization in promoting women leaders through equity-focused leadership programs.

References

- Abalkhail, J. M. (2017). Women and leadership: Challenges and opportunities in Saudi higher education. *Career Development International*.
- Alshenqeeti, H. (2014). Interviewing as a data collection method: A critical review. *English linguistics research*, 3(1), 39–45.
- Ashford, S. J., Rothbard, N. P., Piderit, S. K., & Dutton, J. E. (1998). Out on a Limb: The Role of Context and Impression Management in Selling Gender-Equity Issues. *Administrative Science Quarterly*, 43(1), 23. <https://doi.org/10.2307/2393590>
- Atatsi, E. A., Stoffers, J., & Kil, A. (2021). Team learning, work behaviors, and performance: A qualitative case study of a technical university in Ghana. *Sustainability*, 13(24). <https://doi.org/10.3390/su132413703>
- BASF. (2023). Welcome - BASF Report 2022. <https://report.basf.com/2022/en/managements-report/sustainability-along-the-value-chain/valuing-and-respecting-people/employees/in-focus-inclusion-of-diversity.html>
- BASF. (n.d.-a). BASF Management. <https://www.basf.com/global/en/who-we-are/organization/management.html>
- BASF. (n.d.-b). Women in BASF: Diversity Development Opportunities. <https://www.basf.com/global/en/careers/why-join-basf/diversity/women-in-basf.html>
- Baxter, P., & Jack, S. M. (2008). Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers. *The qualitative report*. <https://doi.org/10.46743/2160-3715/2008.1573>
- BCP-Celanese. (n.d.). BCP. <https://bcp.celanese.com/#/employee-growth/equal-opportunity>
- Bilimoria, D., & Singer, L. T. (2019). Institutions Developing Excellence in Academic Leadership (IDEAL). *Equality, Diversity and Inclusion: An International Journal*, 38(3), 362–381. <https://doi.org/10.1108/edi-10-2017-0209>
- Bocken, N. (2020). Sustainable business models. *Encyclopedia of the UN Sustainable Development Goals*, 963–975. https://doi.org/10.1007/978-3-319-95867-5_48
- Bohnet, I. (2016). *1. Unconscious Bias Is Everywhere*. <https://doi.org/10.4159/9780674545991-002>
- Cassells, R., & Duncan, A. (2020). Gender Equity Insights 2020: Delivering the Business Outcomes. <https://bcec.edu.au/publications/gender-equity-insights-2020-delivering-the-business-outcomes/>
- Celanese. (2021). CELANESE HONORED BY THE WOMEN'S FORUM OF NEW YORK FOR ACHIEVING FULL GENDER PARITY ON CORPORATE BOARD. <https://www.celanese.com/news-and-media/2021/november/celanese-honored-by-the-womens-forum-of-new-york>
- Celanese. (n.d.-a). About Us. <https://www.celanese.com/about-us>
- Celanese. (n.d.-b). Celanese 100 Years Anniversary Timeline. <https://century.celanese.com/>
- Celanese. (n.d.-c). Diversity, Equity and Inclusion. <https://www.celanese.com/about-us/who-we-are/diversity-equity-inclusion>
- Celanese. (n.d.-d). Who we are. <https://www.celanese.com/about-us/who-we-are>
- Celanese - Investor Relations. (2020). Chief Executive Officer Lori Ryerkerk Named Chairman. <https://investors.celanese.com/websites/celanese/English/301020/news-detail.html?airportNewsID=a6d0bbb8-e47d-40c8-8dbb-e60e2ffbf711>
- Celanese - Investor Relations. (2023). 2022 Annual Report. <https://investors.celanese.com/websites/celanese/English/3030/annual-meeting.html>
- D Magazine. (2022). Lori Ryerkerk is D CEO's CEO of the Year - D Magazine. <https://www.dmagazine.com/publications/d-ceo/2020/december/lori-ryerkerk-is-d-ceos-ceo-of-the-year/>
- Day, D. V., Fleenor, J. W., Atwater, L. E., Sturm, R. E., & McKee, R. A. (2014). Advances in leader and leadership development: A review of 25 years of research and theory [Leadership Quarterly 25th Anniversary Issue]. *The Leadership Quarterly*, 25(1), 63–82. <https://doi.org/https://doi.org/10.1016/j.leaqua.2013.11.004>

- Deloitte Netherlands. (2022, February 4). *Women in the boardroom*. <https://www2.deloitte.com/nl/nl/pages/boardroom-programs/articles/women-in-the-boardroom.html>
- Dow. (n.d.). Diversity and Inclusion. <https://corporate.dow.com/en-us/esg/report/inclusion-and-diversity.html>
- Dow Corporate. (2022). ESG Report 2021. <https://corporate.dow.com/en-us.html>
- Dow Investors Relations. (n.d.). Board of Directors | Corporate Governance | Dow Investor Relations. <https://investors.dow.com/en/corporate-governance/board-of-directors/default.aspx>
- European Council. (2022a). Council approves EU law to improve gender balance on company boards. <https://www.consilium.europa.eu/en/press/press-releases/2022/10/17/council-approves-eu-law-to-improve-gender-balance-on-company-boards/>
- European Council. (2022b). Gender balance on corporate boards. <https://www.consilium.europa.eu/en/policies/gender-balance-corporate-boards/>
- Fitzsimmons, T. W., & Callan, V. J. (2016). Applying a capital perspective to explain continued gender inequality in the c-suite [Special Issue: Gender and Leadership]. *The Leadership Quarterly*, 27(3), 354–370. <https://doi.org/https://doi.org/10.1016/j.leaqua.2015.11.003>
- Gabaldon, P., De Anca, C., Mateos de Cabo, R., & Gimeno, R. (2016). Searching for women on boards: An analysis from the supply and demand perspective. *Corporate Governance: An International Review*, 24(3), 371–385.
- Gibbert, M., & Ruigrok, W. (2010). The “What” and “How” of Case Study Rigor: Three Strategies Based on Published Work. *Organizational Research Methods*, 13(4), 710–737. <https://doi.org/10.1177/1094428109351319>
- Gog, M. (2015). Case study research. *International Journal of Sales, Retailing & Marketing*, 4(9), 33–41.
- Hoyt, C. L., & Murphy, S. E. (2016). Managing to clear the air: Stereotype threat, women, and leadership [Special Issue: Gender and Leadership]. *The Leadership Quarterly*, 27(3), 387–399. <https://doi.org/https://doi.org/10.1016/j.leaqua.2015.11.002>
- Human Capital Report. (2021). <https://www.celanese.com/about-us/who-we-are/diversity-equity-inclusion>
- Janssens, M., & Zanoni, P. (2021). Making diversity research matter for social change: New conversations beyond the firm. *Organization Theory*, 2(2), 26317877211004603. <https://doi.org/10.1177/26317877211004603>
- Kramarae, C., Pollard, D., & Richardson, B. (2007). *Handbook for achieving gender equity through education*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Krivkovich, A., Liu, W. W., Nguyen, H., Rambachan, I., Robinson, N., Williams, M., & Yee, L. (2022). Women in the Workplace 2022. <https://www.mckinsey.com/featured-insights/diversity-and-inclusion/women-in-the-workplace>
- Kuhlmann, E., Ovseiko, P. V., Kurmeyer, C., Gutiérrez-Lobos, K., Steinböck, S., Von Knorring, M., Buchan, A. M., & Brommels, M. (2017). Closing the gender leadership gap: a multi-centre cross-country comparison of women in management and leadership in academic health centres in the European Union. *Human Resources for Health*, 15(1). <https://doi.org/10.1186/s12960-016-0175-y>
- Leal Filho, W., Eustachio, J. H. P. P., Caldana, A. C. F., Will, M., Lange Salvia, A., Rampasso, I. S., Anholon, R., Platje, J., & Kovaleva, M. (2020). Sustainability leadership in higher education institutions: An overview of challenges. *Sustainability*, 12(9). <https://doi.org/10.3390/su12093761>
- Liu, S. (2013). A few good women at the top: The china case. *Business Horizons*, 56(4), 483–490. <https://doi.org/https://doi.org/10.1016/j.bushor.2013.04.002>
- McLaughlin, H., Silvester, J., Bilimoria, D., Jané, S., Sealy, R., Peters, K., Möltner, H., Huse, M., & Göke, J. (2018). Women in power: Contributing factors that impact on women in organizations and politics; psychological research and best practice. *Organizational Dynamics*, 47(3), 189–199. <https://doi.org/https://doi.org/10.1016/j.orgdyn.2017.09.001>
- Miao, Q., Newman, A., Schwarz, G., & Cooper, B. (2018). How Leadership and Public Service Motivation Enhance Innovative Behavior. *Public Administration Review*, 78(1), 71–81. <https://doi.org/10.1111/puar.12839>

- Ministerie van Justitie en Veiligheid. (2021). *New legislation will improve gender diversity on corporate boards*. <https://www.government.nl/latest/news/2021/09/29/new-legislation-will-improve-gender-diversity-on-corporate-boards>
- Pande, R., & Ford, D. (2012, June 26). *Gender quotas and female leadership*. <https://openknowledge.worldbank.org/handle/10986/9120>
- Phipps, S. T. A., & Prieto, L. C. (2020). Leaning in: A historical perspective on influencing women's leadership. *Journal of Business Ethics*, 173(2), 245–259. <https://doi.org/10.1007/s10551-020-04566-6>
- Randel, A. E., Galvin, B. M., Shore, L. M., Ehrhart, K. H., Chung, B. G., Dean, M. A., & Kedharnath, U. (2018). Inclusive leadership: Realizing positive outcomes through belongingness and being valued for uniqueness. *Human Resource Management Review*, 28(2), 190–203. <https://doi.org/https://doi.org/10.1016/j.hrmr.2017.07.002>
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons.
- Shenai, G. (2023). The road to parity for women in tech. <https://www.mckinsey.com/featured-insights/themes/the-road-to-parity-for-women-in-tech>
- Sugiyama, K., Cavanagh, K. V., van Esch, C., Bilimoria, D., & Brown, C. (2016). Inclusive leadership development: Drawing from pedagogies of women's and general leadership development programs. *Journal of Management Education*, 40(3), 253–292. <https://doi.org/10.1177/1052562916632553>
- Sustainability-Celanese. (2023). Sustainability Report 2021 - 2022. <https://sustainability.celanese.com/>
- The Manufacturing Institute. (2023). 2023 Women MAKE Award Winners. <https://www.themanufacturinginstitute.org/women/wma/wma-awards/2023-women-make-award-winners/>
- United Nations Statistics Division. (2022a). — *sdg indicators*. <https://unstats.un.org/sdgs/report/2022/Goal-05/>
- United Nations Statistics Division. (2022b). *The gender snapshot 2022 — sdg indicators*. <https://unstats.un.org/sdgs/gender-snapshot/2022/>
- Veli Korkmaz, A., van Engen, M. L., Knappert, L., & Schalk, R. (2022). About and beyond leading uniqueness and belongingness: A systematic review of inclusive leadership research. *Human Resource Management Review*, 32(4), 100894. <https://doi.org/https://doi.org/10.1016/j.hrmr.2022.100894>
- Weller, S. C. (1998). Structured interviewing and questionnaire construction. *Handbook of methods in cultural anthropology*, 365–409.
- World Economic Forum. (2022). *Global gender gap report 2022*. Retrieved November 28, 2022, from <https://www.weforum.org/reports/global-gender-gap-report-2022/digest>
- Yin, R. K. (2018). Case study research and applications: Design and methods. *The Canadian Journal of Action Research*.
- Young, L. D. (2012). How to Promote Innovative Behavior at Work? The Role of Justice and Support Within Organizations. *Journal of Creative Behavior*, 46(3), 220–243. <https://doi.org/10.1002/job.15>



Materials company

A.1. Company Overview



Figure 28: Overview and global footprint of Celanese Corporation (Sustainability-Celanese, 2023)

A.2. Executive Board



Figure 29: Diverse and Inclusiveness at the Top management (“Human Capital Report”, 2021)

	Audit Committee	Compensation and Management Development Committee	Nominating and Corporate Governance Committee	Environmental, Health, Safety, Quality and Public Policy Committee
Jean S. Blackwell				
William M. Brown ¹				
Edward G. Galante				
Kathryn M. Hill				
David F. Hoffmeister				
Jay V. Ihlenfeld				
Deborah J. Kissire				
Michael Koenig				
Kim K.W. Rucker				
Lori J. Ryerkerk ²				
 = Chairman  = Member				

¹ Lead Independent Director ² Chairman of the Board, Chief Executive Officer & President

Figure 30: Executive Board of Celanese showing 50% of gender parity led by Woman leader (Celanese - Investor Relations, 2020)

A.3. Company History

Year	Events
1910	Cellulose acetate film produced by Henry and Camille Dreyfus in the backyard. This product was developed as a non-flammable motion picture film compared to volatile cellulose nitrate-based film.
1913	Cellonit Gesellschaft Dreyfus & Co. founded in Switzerland.
1916	British Cellulose & Chemical Manufacturing Co. was founded based on the British government's invitation to produce new airplane paint with acetic acid as the intermediate product.
1918	Founded American Cellulose & Chemical Manufacturing Co. in New York.
1921	Acetate yarn production facility established in UK.
1924	Cellulose acetate known as artificial silk began its production with the first spool of acetate yarn.
1927	Name changed to "Celanese Corporation of America" and become one of the largest chemicals manufacturers.
1930	Started trading on the New York Stock Exchange.
1939	Acetate yarn (Rayon) become six times more than the silk clothing market as a cheaper and easy maintenance alternative.
1940	Celanese started flourishing due to the high textile demand of World War II and government contracts were driving high demands.
1946	Research facility and chemical division established in Texas, North America.
1950	Cellulose fiber market was dominated by Celanese along with Avisco and Du Pont. However, there was serious market trouble due to the entry of new synthetic fibers such as nylon, polyester, and acrylic product.
1964	Joint venture company - Polyplastics Co. Limited established in Japan between Celanese Corporation of America and Daicel Limited to produce and market POM (Polyoxymethylene) product. The following year, Celanese established its Belgium facility.
1970	Diversification of business into the construction industry, health care, and medical equipment in addition to the acetate and polyester market.
1979	American Hoechst Corporation purchased the Celanese PET business in North Carolina. Later Celanese established its business in Hong Kong, China.
1987	Hoechst Celanese Corporation was formed after a friendly acquisition by Hoechst A.G. Hoechst's fiber, organic chemical, and specialty chemical businesses strengthened by Celanese then onwards.
1997	As a strategic decision, various business domains are converted into independent companies. Ticona handled the technical polymers business and Celanese ran the global chemical business.
1999	The company acquired 50% share in Korea Engineering Plastics and also the outstanding 44% of Celanese Canada.
2000	Successfully inaugurated an acetic plant in Singapore with 500,000 metric tons per year.
2003	The joint venture of the oxo businesses with Degussa A.G. was established by Celanese corporation.
2005	Celanese became a publicly traded corporation on the NYSE after a successful initial public offering.
2009	Acquisition done for the long fiber reinforced thermoplastics business with Future Advanced Composites Technology of Kaiserslautern, part of the Ravago Group in Germany.
2013	Joint venture with 50:50 established with Mitsui Co., Limited of Tokyo, Japan mainly in the production of methanol products. Introduction of New Celanese.
2016	Acquired SO.F.TER. aimed at doubling the number of global engineering materials.
2017	Celanese Material Academy as part of 18-minute series of lectures specialized in engineering polymers.
2018	New social intranet ONE launched as a tool to connect employees across global locations and improve engagement within the entire company.

Table 9: 100 years of History - Celanese corporation (Celanese, n.d.-b)

B

Interview Summary

B.1. Questionnaire

The interview is semi-structured with a predefined questionnaire to understand the career journey, challenges, and leadership development opportunities in the organization. It is categorized into four topics like facts, leadership, challenges, and future improvements.

Facts

- What is your overall working experience?
- How long are you working in this particular industry?
- How long it took for you to reach this (management- * if applicable) position in the company?

Leadership Factors

- What motivated you to work for leadership roles?
- Did you get introduced to leadership development programs in the organizations you have worked for?
 - a) Are these programs addressed for women employees?
 - b) What kind of programs these were? Which were most valuable to support your career growth and why?
- What supported you in your career aspirations and growth from companies' side?

Challenges

- In this career journey, what challenges or barriers have you faced?
 - a) Social barriers (for example: family commitments, etc.)
 - b) Organizational/ Professional barriers (for example: bias in decision making process)
 - c) Other (please specify)
- How can organizations support women employees in overcoming these barriers (social, organizational and other)?

Future

- Do you believe that there should be more women in management positions and why (your thoughts)?
- What can be improved to motivate more women leaders in an organization?
- Any additional comments?

Based on this questionnaire, semi-structured interviews are conducted with top and mid-level management in the company. Accordingly, interview summaries are compiled and outputs are used for further analysis on the research objective.

B.2. Interview 1

Leadership Level - L2

Gender - Female

Facts

- Overall 25 years experience. 24 years to reach a management position.

Leadership Factors

- Leadership depends on an individual level and motivation.
- No specific development programs for women.
- Leadership program – “Grow into leadership”, Hogan Assessment.
- Career aspirations/ growth – depends on people, performance-driven culture.

Challenges

- Barriers – No social barriers but there are organizational barriers (biased situations). Need more awareness.
- Need for organization support – flexible working hours, and trust in employees should be improved.

Future

- Future – need women leaders to support a constantly changing and diverse environment.
- Motivation factors – Self aspiration, role representation, step up, and upbringing of people.

B.3. Interview 2

Leadership Level - L4

Gender - Female

Facts

- Overall 15 years to reach a management position. (but got a short time to reach manager position as Quality manager in a year).

Leadership Factors

- Leadership comes from a role model and natural behavior.
- Specific events for women through events and circles.
- Leadership program – “Grow into leadership”
- Career aspirations/ growth – Immediate manager/leader motivation, creating opportunities, and working in cross-functional teams.

Challenges

- Barriers – Yes social barriers (maternity, culture, young age), and faced a lot of organizational barriers (wrong assumptions even from both male or female employees, biased based on social commitments, ignorance in meetings, etc).
- Need for organization support – flexible working hours, Maternity leave, daycare.

Future

- Future – Need more awareness, aspiring leaders.
- Motivation factors – HR policies to support women internationals and immigrants.

B.4. Interview 3

Leadership Level - L4

Gender - Female

Facts

- Overall 15+ years but 11 years in this industry. Took 7 to 8 years to reach a management position.

Leadership Factors

- Leadership comes from the individual. To be in the center and love to be a leader.
- No such leadership programs or events.
- Career aspirations/ growth – Self-motivation.

Challenges

- Barriers – No social barriers with a supportive partner and faced few organizational barriers being a single woman in meetings and could not follow men's conversations. Less recognition and organizational bias in the management.
- Need for organization support – flexible working hours, Open discussion.

Future

- Future – Yes, women leaders can enhance the team, emotional/empathy is key.
- Motivation factors – Top to-bottom approach is needed, work life balance, re-considerations.

B.5. Interview 4

Leadership Level - L2

Gender - Female

Facts

- Overall 21 years and 15 years in this industry. Started a management position as a management trainee in the company.

Leadership Factors

- Leadership comes individually – Like to stretch and take challenges that give a growing feeling of confidence.
- Women leadership programs/ events to understand the differences.
- Leadership program – “Finance leader program”.
- Career aspirations/ growth – Good manager/individuals and opportunity for building relationships.

Challenges

- Barriers – Resolved social barriers (maternity, young kid) through alternative solutions, compromise, and very rare experiences on organizational barriers such as misjudgment based on working style.
- Need for organization support – Training to understand the differences and how to be women leaders.

Future

- Future – Diversity in the management similar to the general population. Women’s listening, empathy, can relate to people are considered strong points.
- Motivation factors – Role model representation.

B.6. Interview 5

Leadership Level - L3

Gender - Female

Facts

- Overall, 17 years in this industry but got a short time to reach a manager position in 5 years.

Leadership Factors

- Leadership comes from self-interest in decision-making, developing myself, and learning new skills.
- Driving the business of success is a real motivating factor.
- Leadership program – Did not experience any leadership programs but the company offered a coach as a support system for the leadership positions.
- Career aspirations/ growth – Immediate manager now and then with good motivation and as a coaching element.

Challenges

- Barriers – No social barriers as experienced. However, there are professional barriers in the past without awareness of diversity. Initial challenges faced working with manufacturing teams but support from the manager helped to overcome them. Salary level is another challenge still in the industry.
- Need for organization support – Offer a coach/ mentor, a good supporting manager but self-actions or motivation is the key.

Future

- Future – Yes, women leaders drive and can contribute to more success. Need more awareness about success cases, and role models.
- Motivation factors – HR policies to initiate leadership programs even for leaders without direct reports. Coach and mentoring system is essential for women leaders.

B.7. Interview 6

Leadership Level - L2

Gender - Female

Facts

- Overall 23 years and around 2.5 years in this industry. To reach a manager position, it took around 10 years.

Leadership Factors

- Leadership comes from self-motivation, self-driven – love people and love to lead the team.
- Feels great when I can help people grow and develop.
- Leadership program – the best development comes from the job. Nothing specific for women employees.
- Career aspirations/ growth – Flexibility and recognizing the drivers inside the company. Self-aspirations with a positive mindset feeling myself as best.

Challenges

- Barriers – Social barriers demand multitasking, handling pressures, and misjudgment from teachers, and non-working mothers. Professional challenges are ones where there is less or no consideration for women's situations, or recognition issues inside the organization.
- Need for organization support – Flexibility working hours, trust, and considerations for women's family-work scenarios.

Future

- Future – Yes, women leaders drive and can contribute to more success. An emotional trait of a woman is a good strength for a leader. Role representation has to be improved.
- Motivation factors – Starts from the societal level in education with greater representations. Men need to step up and the affordability of child care has to be improved in society. From the organizational side, flexible working arrangements, create alternate career paths and the right role representation.

B.8. Interview 7

Leadership Level - L3

Gender - Male

Facts

- Overall, 30 years and around 12 years in this industry. It took around 3 to 4 years to reach a managerial position.

Leadership Factors

- Leadership comes from progressive nature and responsibility.
- Leadership program – Pursued MBA on the personal decision (self-motivation), other ways of development come from practices like 360 feedback.
- Career aspirations/ growth – Individually driven.

Challenges

- Barriers – No such barrier as such but stereotype thinking about leadership styles. Professional challenges are linked with this social barrier which creates bias based on the leadership style.
- Need for organization support – Flexibility and considerations for women's family-work scenarios.

Future

- Future – Yes, women in management can contribute better as it creates a diverse environment in an organization. This is also linked to their decision-making and empathy behaviors.
- Motivation factors – This comes from flexibility and awareness about leadership roles / professional bias.

B.9. Interview 8

Leadership Level - L4

Gender - Male

Facts

- Around 15 years overall experience and 9 years in this industry. It took around 7 to 8 years to reach a managerial position.

Leadership Factors

- Leadership is motivated by attributes such as getting things done and decision-making.
- Leadership program – Not encountered leadership programs. However, experienced managerial programs (like People's first manager) which are more operational and gender-neutral.
- Career aspirations/ growth – Open to challenges.

Challenges

- Barriers – No such barrier. Professional challenges are linked to Bilingual aspects and job requirement challenges.
- Need for organization support – Create a safe and healthy working environment and understand the needs. Promote gender equity rather than equality. Organizational maturity is the key factor.

Future

- Future – Yes, women in management could bring creative outcomes. A diverse set of leaders creates a more inclusive environment.
- Motivation factors – Practice Equity. To understand the barriers, and drivers for checking out and create opportunities accordingly.