

CRANFIELD UNIVERSITY

Michelle Tessaro

**THE ROLE OF NUMBERS, POWER AND STATUS OF FEMALE  
CORPORATE DIRECTORS ON GENDER DIVERSITY BELOW THE BOARD**

School of Management

DBA

Academic Year: 2018 - 2022

Supervisor: Professor Sue Vinnicombe, CBE  
Associate Supervisor: Professor Kim Turnbull James  
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## **ABSTRACT**

This thesis explores the relationship between women on corporate boards and the representation of women in the two senior levels below the board. During the past twenty years there has been considerable efforts to improve the numbers of women in leadership roles. While there has been significant progress in developing a critical mass of WoB, it has not had the anticipated effect of improved gender diversity below the board, where progress has been slow and has yielded inconsistent results.

Drawing on data from UK FTSE100 companies, this research moves beyond the trickle-down effect related to critical mass theory and incorporates the constructs of power and status to examine the relationship of women on boards and women in the executive levels. The findings suggest that it is the confluence of women on boards in their numbers, *and* in positions of power and status that drives gender diversity below the board.

This thesis makes a number of contributions to knowledge. Taking a configurational approach using Qualitative Comparative Analysis (QCA), was a departure from previous research which has mostly relied on the use of traditional regression analysis. Instead, a QCA embraces casual complexity using a comparative case-based method to systematically analyze configurations of conditions and outcomes. The use of this methodology was important in developing two theoretical contributions. First, it allowed for a more complex analysis, incorporating the theoretical lens of power and status and women's numerical representation to examine the impact of the gender composition of corporate boards on gender diversity below the board. The findings provide empirical evidence that a critical mass of women is not enough on its own to activate trickle-down mechanism as it is neither necessary nor sufficient in its association with improved gender diversity in the executive levels. Instead, a multi theoretic approach results in strong empirical evidence that female directors on corporate boards, when represented in their numbers, power and status, indicate gender integrated boards and gender integrated boards are key to consistently activating the trickle-down effect.

This research also facilitated the development of a board evolution model. Although speculative, it provides a preliminary hypothesis describing how boards have evolved from male dominated ones to ones that are not only gender balanced but gender integrated, where women directors are present in positions of power and influence.

**Keywords:**

Critical mass, Qualitative Comparative Analysis, QCA, corporate governance, board of directors, female executives, female non-executives, female CEOs, female Chairs, mixed methods

## **ACKNOWLEDGEMENTS**

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I dedicate this thesis to my daughters, Christine and Lauren, with all my love.

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## **LIST OF ABBREVIATIONS**

WoB	Women on Boards
QCA	Qualitative Comparative Analysis
fsQCA	Fuzzy-set Qualitative Comparative Analysis
NED	Non-executive Director
ED	Executive Director
SID	Senior Independent Director
HRD	Human Resource Director
FRC	Financial Reporting Council
SMV	Set Membership Value
TMT	Top Management Team
EXCO	Executive Committee
NCA	Necessity Condition Analysis

# 1 INTRODUCTION

## 1.1 Opening Remarks

I come to academia after being a practitioner for many years. Most of my career has been in finance, working as CFO for a number of SME (small and medium sized enterprises) where I was fortunate to advance to the senior levels as CFO or running lines of business. My interest in this research project comes largely from my own personal experience in both executive and non-executive roles. During my executive career often I was the only woman in the room. Similarly, I am the only woman on a corporate board where I serve as a non-executive for a Canadian company.

There were subtle but important differences in my experiences in executive versus non-executive roles. In terms of career progression, it did seem that it was more difficult for women to advance to the executive levels than it was for men as there seemed to be a built-in preference for men for promotions, salaries and bonuses. For me, in executive meetings, I found it was often more difficult to be taken seriously or have my voice heard especially when discussing and debating areas outside my specific job responsibilities. Often, there would be a few more assertive men who would dominate the conversation and this would happen to the extent that the CEO would allow it. Overall, notwithstanding differences of opinions and sometime heated debates, decisions were made by the CEO.

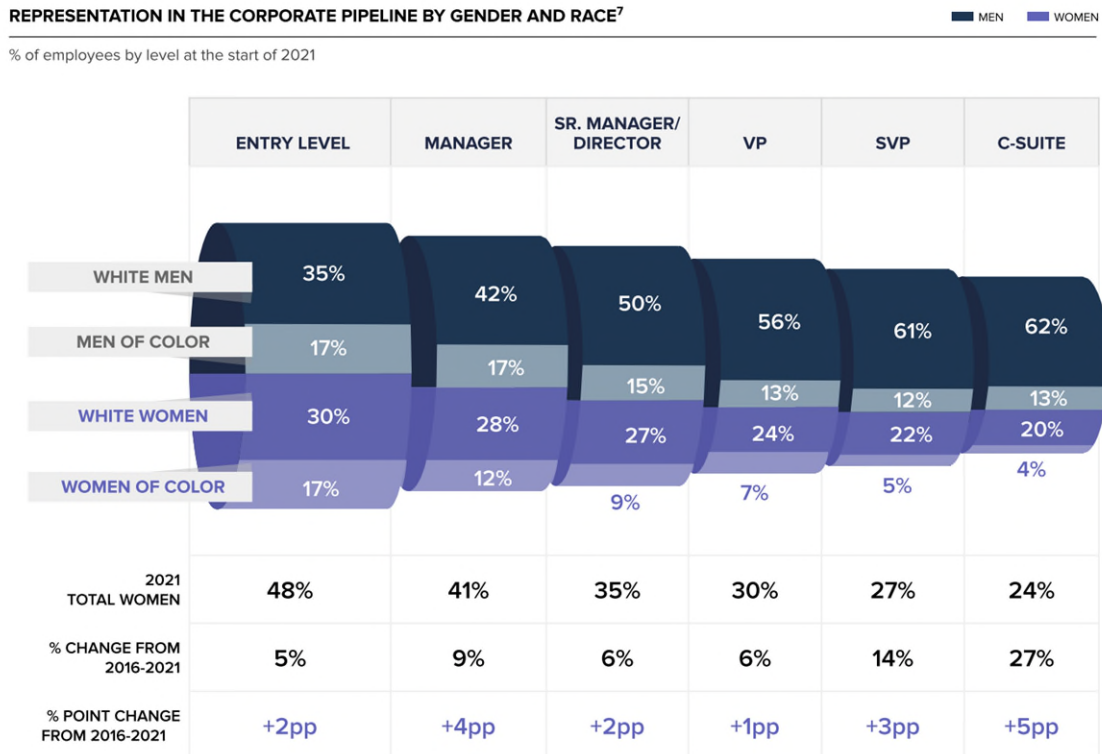
My experience as a non-executive on the other hand was slightly different. Here, even though each board member had the opportunity to contribute, whether these contributions were actually taken seriously seemed to be a different matter. Interestingly, when I became interim chair of the corporate board, suddenly, other board members, advisors and shareholders seemed to offer me a higher level of respect and in some cases deference.

Of course these were only my personal experiences but it was these experiences that piqued my interest not only in the lack of women in the upper echelons of organizations but how women who reach these levels are able to have their voice heard and influence organizational cultures and outcomes. Perhaps, as it was for me, just being at the table is not enough to have impact and influence. Perhaps the position, and power associated with the position, is a key aspect in facilitating their influence. This research is therefore focused on better understanding when and how women in leadership positions, specifically the board, are able to influence cultures, board dynamics and ultimately board decisions that can positively impact gender diversity in the senior executive levels.

## **1.2 Background**

Gender equity has been a long-standing issue in labour markets globally. Over the past six decades female participation in the workforce has steadily increased during which time women have significantly narrowed the gap in human capital, leadership qualities and capabilities. Today, more women are receiving undergraduate degrees than men and for the most part enter the job market at equal rates to men. However, as we look at the progression of men and women through their professional lives, the balance gradually shifts more and more in favour of men such that when we reach the upper echelons of organizations, women are a significant minority. Figure 1 below provides a poignant visualization of the increasing gender imbalance as you move up the corporate hierarchy. Nearly even at entry level (48%), it falls to half (24%) in the C-Suite (McKinsey & Company, 2021).

**Figure 1: Corporate Pipeline by Gender and Race (McKinsey & Company, 2021)**



### 1.3 Defining the Issue

The restriction of access and opportunity for women to advance through the corporate pipeline to executive positions has significant consequences. Capable and talented women not only have their potential capped, lower compensation levels means they can also expect a significant wealth disparity at retirement. The consequences, however, reach beyond individual women. The underutilisation of the female talent pool has growing national economic impacts. McKinsey & Company estimated that if women's participation in the workplace were equal to men, it would mean an additional \$28 trillion (+26%) in global GDP (McKinsey & Company, 2015). The overrepresentation of women in lower and middle ranks and the underrepresentation at senior levels is not only a social justice issue, it is increasingly becoming an economic one where an aging

workforce and lower birth rates in developed economies are resulting in workforce shortages and growing skills gaps-

Notwithstanding significant societal changes, strong gender diversity commitment from organizations, women's similar (or higher) levels of achievement in education and interest in pursuing leadership roles, there continues to be a persistent lack of women in senior leadership roles, particularly in CEO roles. This suggests that this is an issue of demand rather than one of limited supply. Moreover, many bottom up approaches like leadership development and mentoring have been ineffective in improving gender balance in senior levels, perhaps because they focus on strategies for women to fit existing gendered cultures and processes rather than changing the culture and processes to fit women (Wittenberg-Cox, 2015).

### **1.3.1 Summary of Literature**

Research on the gender composition of corporate boards has been prolific over the past three decades. In terms of the influence of Women on Boards (WoB) on organizational outcomes, studies examining the influence of female directors on firm performance and the social or ethical behaviour of the firm have been dominant (Kirsch, 2018). Far fewer studies have examined the influence of WoB on a number of gender diversity outcomes including if and when the presence of female directors trickles down to levels below the board. For studies that have examined this trickle-down effect, critical mass theory most often provides the theoretical underpinning. The results of these studies, however, have been equivocal suggesting that meaningful participation and influence is not necessary a function of proportional representation as critical mass theory posits. As (Sherbin and Rashid, 2017) point out in their Harvard Business Review article, diversity does not create inclusion, an observation that offers an explanation for the inconsistent findings to date.

An emerging stream of research has considered the influence of female directors with power and status on various gender diversity outcomes, the results of which suggest that power and status are important aspects that may play a significant role in determining if and when WoB can affect board decisions and organizational outcomes. Indeed, the management literature includes a great deal of research on power in organizations and how the asymmetries of information between actors affect organizational outcomes, particularly as it relates to the power and influence of the CEO and TMTs (for example, Adams, Almeida and Ferreira, 2005; Finkelstein, 1992; Horner, 2010).

In terms of corporate boards, effective corporate governance is critically dependent on an appropriate distribution of power between key corporate actors including the board of directors and management. In light of many corporate scandals, corporate governance practices have been under increasing pressure to address agency issues which have resulted in the assignment of more responsibility to key board roles like the Board Chair, SIDs and committee chairs. Corporate governance research has long examined the role and influence of non-executive versus executive directors (Pettigrew and McNulty, 1995; Roberts, McNulty and Stiles, 2005) and more recently the influence of key board roles like Chairs (Bezemer, Nicholson and Pugliese, 2018; Gabrielsson, Huse and Minichilli, 2007; Krause, Semadeni and Cannella, 2014; McNulty et al., 2011) and Senior Independent Directors (SIDs) (Lamoreaux, Litov and Mauler, 2019).

In contrast to both the management and corporate governance research, WoB research has been largely limited to an examination of the proportional representation of WoB and its effects on various organizational outcomes. Very little WoB research has problematized the gender composition of corporate boards from the perspective of power notwithstanding the various power dynamics operating at board level that shape board decisions and outcomes.

Equally, policy interventions and other initiatives targeting the board of directors have been popular top-down approaches to improving gender balance in organizations. These initiatives have also focused on increasing the numbers of women on corporate boards of directors with an assumption that improving the

gender balance of the board would trickle-down to levels below the board. While quotas and voluntary target programs have been largely successful in increasing the numbers on WoB, the anticipated trickle-down effect has been disappointing with inconsistent effects.

Notwithstanding the uneven results of the effect of WoB on the trickle-down effect, I argue that corporate boards are still the most fruitful line of inquiry. First, corporate boards fulfil the critical role of directing the affairs of the company, setting strategy and overseeing management. Importantly, they are also charged with setting and monitoring the culture of the organizations to ensure optimal and sustainable performance. In the preface to the 2016 UK Corporate Governance Code, it notes that “One of the key roles for the board includes establishing the culture, values and ethics of the company. It is important that the board sets the correct ‘tone from the top’.” (Financial Reporting Council, 2016).

Secondly, as discussed above, the aspects of the power and status of WoB in terms of influencing organizational outcomes remains largely underexplored. Taken together this suggests that research interested in WoB in general and the trickle-down effect specifically could benefit from an examination of the power and status of female directors as well as their numeric representation.

### **1.3.2 Research Questions**

Following this rationale above, this research will address the following research questions.

1. Does the presence of WoB activate the trickle-down effect?
2. What board gender configurations (in terms of roles held by female directors) are associated with the trickle-down effect?
3. What mechanisms underpin the trickle-down effect?

## **1.4 Outline of Thesis**

This dissertation goes beyond an examination of the number of women directors and will also consider the power and status of female board members and how these aspects combine to effect gender diversity outcomes in the levels below the board.

To do this, I will examine how boards are configured based on the number of women directors, as well as considering the roles they hold and the power and status associated with their roles. While critical mass theory has provided scholars with the dominant theoretical lens for understanding how the gender configuration of corporate boards affects gender diversity outcomes, it has failed to consider the aspects of power and status and how this affects the ability of female directors to have a meaningful say in board processes and decisions.

Recognizing that corporate boards make decisions collectively, the ability to influence fellow board members is crucial to having an impact on the decision-making process. While research has shown that critical mass is an important aspect for developing influence in group processes, power and status are also key aspects affecting the ability to influence peers and determine organizational outcomes. Incorporating these three aspects of WoB; numbers, power and status and examining board configurations from this perspective can provide new insight on improving gender diversity outcomes.

The balance of this chapter provides a brief background of women in the leadership and sets the stage for this research by reviewing the key themes that explain why women continue to face discrimination in the workplace. This includes a summary of how stereotypes, both gender and leadership stereotypes, affect women's careers. I will then consider the gendered nature of organizations and discuss how the gendering of organizational structures and processes have frustrated improvements in gender diversity outcomes and contributed to their reinforcement and reproduction.

Following this, I will provide a summary of how organizations, the business community and governments are addressing gender inequality by reviewing their initiatives.

Chapter 2 will focus on a systematic literature review which reveals that most of the research on the gender composition of the board evaluates the numbers thesis, that is, the influence of the proportional representation of WoB on a variety of gender diversity outcomes. It will also introduce an emerging stream of research looking at the power and status of WoB and how this has influenced board processes and outcomes as they relate to gender diversity outcomes.

Ultimately, we are drawn to the conclusion that a more nuanced view of the gender composition of the board is warranted. Moving beyond the numbers thesis, my empirical study will consider not only the numbers of WoB but will incorporate the hierarchical structure of the boards and the inherent power and status of female board members to determine what board configurations of WoB can effectively influence better gender balance below the board.

Chapter 3 discusses the theoretical framework used to inform my empirical analysis. I first review critical mass theory, which is the dominant theme in extant research. I then introduce theoretical perspectives on power and status and provide a rationale for including these in the analysis as well as a justification for a configurational approach to address my research objective.

Chapter 4 provides an overview of the multi-method research approach used in this study. I explain that my mixed methods approach that is centered around a Qualitative Comparative Analysis (QCA) of FTSE 100 boards. A QCA analysis is a relative new methodology for management research. Its advantage is the ability to incorporate a more complex analysis of explanatory variable on an outcome of interest. Based on set theory and formal logic, it analyses configurations of influencing conditions (the numbers, power and status of WoB) and their association with the outcome of interest (30% or more women in executive levels).

The post-solution analysis phase of the QCA study will be complemented by a supplementary study to provide insight and help to contextualize the findings of the QCA analysis. This will consist of a number of semi-structured interviews with highly experienced FTSE board directors and advisors.

Empirical support provided from the QCA and supplementary study conducted as part of this research is presented in chapters 5 through 7. These chapters provide the background, research methods, findings and discussions associated with each of the two studies. The first study – a QCA study of FTSE 100 firms is the core piece of my empirical work. A detailed discussion of the background, methods and findings of the QCA analysis are discussed in chapter 5. Chapter 6 provides the background, methods and findings of the supplementary study of semi-structured interviews. The supplementary study provides important real-world perspectives on the QCA study and offers support and context for the interpretation of the findings.

The central theme that runs through these two studies involves the confluence of having a critical mass of WoB *and* their presence in roles with power and status that is associated with better gender balance in the executive levels. Boards with these configurations exhibit not only more gender balanced boards but ones that are more gender integrated, where women directors are in positions with real power and influence. These gender integrated board configurations, with the more equal participation of WoB, are most effective in activating trickle-down mechanisms that lead to improvements in the gender balance in executive levels.

Building on prior work on women in positions of power on boards (Cook, Ingersoll and Glass, 2018; Cook and Glass, 2015a; Furlotti et al., 2019; Glass and Cook, 2018; Tate and Yang, 2015), my QCA provides empirical evidence of both the importance of normalizing the presence of WoB by developing a critical mass of women directors and the importance of the presence of women directors with power or status in order to have a consistent effect on the gender diversity below the board.

Taken together my overall argument is as follows: Critical mass is important but not sufficient to create conditions where WoB can effectively influence gender

diversity outcomes. Women directors must also have power or status on the board in order to positively and consistently influence diversity outcomes. Configurations that include both a critical mass of women directors and women with power or status are associated with better gender balance in levels below the board as they effectively activate various trickle-down mechanisms.

Chapter 8 outlines the practical impact this research has had on practice and provides evidence of same. Chapter 9 provides an overall summary. Included is a presentation of the important implications and contributions from this study for both for theory and for practitioners as well as an assessment of the limitation of this study. Also included in Chapter 9 are potential areas for future study and research. Finally, concluding comments are provided.

### **1.4.1 Theoretical Contributions**

This dissertation contributes to the WoB literature and extends our understanding of how and when the gender composition of boards of directors can influence gender diversity outcomes, in particular the trickle-down effect. Including the underexplored aspects of power and status and their role in enabling female directors to shape board cultures and processes has provided new insights into when and how the gender composition of corporate boards can drive improvements in gender diversity below the board. Employing a novel research design centred around a QCA, I make two key contributions to scholarship.

First, this research and the findings suggest that the utility of critical mass theory in WoB research in terms of explaining the relationship between a specific percentage of female directors (a critical mass) and their ability to influence organizational outcomes (in this case the trickle-down effect) is overstated. While a critical mass of female directors may help to overcome gendered stereotypes and normalize the presence of women in leadership roles, it is not enough on its own to ensure that female directors will have a meaningful influence in driving gender balance below the board.

Secondly, the incorporation of the power and status of female directors in this analysis addresses an overlooked aspect of WoB research and provides empirical evidence that the power and status of female directors is an important aspect of driving better gender balance in the senior executive levels. Taking a multi-theoretic approach and incorporating the power and status of WoB along with their proportional representation has provided a more nuanced view of when and how the gender composition of corporate boards is effective in activating trickle-down mechanisms and producing the trickle-down effect. The findings suggest that organizations must demonstrate their commitment to advancing gender diversity by developing gender integrated boards, where female directors fully participate in roles with power and influence. Such boards provide important cultural and reputational signals to existing and prospective employees. Moreover gender integrated boards legitimize female directors as role models and facilitate female directors taking gender equity related actions like advocating for female promotions and appointments. Accordingly, gender integrated boards are consistently effective in activating these trickle-down mechanisms which drive improved gender diversity below the board.

A further contribution, although speculative, is the board evolution model. This model demonstrates how boards have evolved from male dominated ones to ones that are not only gender balanced but gender integrated, where women directors are present in board roles with power and status. Importantly, this model exposes the crucial role male leaders play as gatekeepers and champions in transforming the male dominated boards of the past to the gender integrated ones of the future, where women participate in equally in terms of the proportional representation and in terms of their appointment to roles with power and influence.

### **1.4.2 Practical Contributions**

From a practical perspective, this exploratory analysis has provided evidence that a sole focus on proportional representation of WoB is not enough to drive gender balance in the levels below the board. This is of particular importance for policy

makers and regulators, who, to date have focused on improving the numbers of female directors assuming that this would improve gender balance more broadly. While initiatives to increase the numbers of WoB have largely been successful, the trickle-down effect has been limited. The numbers of female executives remains constrained and improvements in the number of female CEOs has been virtually non-existent. Therefore, a continuation of such approaches are not likely to result in better representation of women in senior executive levels. Instead, this research suggests that female directors also need to be in roles with power and influence in order to consistently activate trickle-down mechanisms. Policy makers and regulators should therefore be cautioned interventions that focus exclusively on increasing the numeric representation of female directors is unlikely to achieve policy objectives.

## **1.5 Background**

These next sections provide some background on the challenges that are facing women in the workplace, first discussing stereotypes and then moving on to the concept of gendered organizations. This section concludes with a summary of organizational, practitioner and government initiatives to improve gender equality.

### **1.5.1 Women in Leadership**

Research on gender and leadership has been prolific. Nearly 3,000 articles have been written since 1970 with more than a third published in the last decade, evidence of the growing academic and public interest in addressing gender inequality in the workplace. Two themes dominate the research in explaining why women continue to face discrimination in the workplace, in particular for senior leadership roles. First, the incongruity between gender and leadership stereotypes continues to have significant consequences for women pursuing leadership positions. Secondly, the gendered nature of organizational structures and processes continue to disproportionately favour men (Eagly and Heilman,

2016). Each of these inform and reinforce the other and make their un-doing fraught with difficulties.

### **1.5.2 Gender and Leadership Stereotypes**

The meaning of gender goes well beyond physical and biological characteristics. Different than the biological sex of males and females, gender encompasses the social, cultural and attitudinal expectations associated with being male or female. All cultures categorize themselves by gender. To these categories, a number of traits are assigned based on cultural and social beliefs and expectations of what it means to be male or female (Bodenhausen and Macrae, 2001). These gender categorizations are highly visible, acutely salient, easily differentiated and are the basis on which gender stereotypes are shaped (Ellemers, 2018).

According to the Oxford Dictionary a stereotype is defined as “A widely held but fixed and oversimplified image or idea of a particular type of person or thing.” It is human nature to categorize objects and people. It is a way to simplify and make sense of a complex world, a mental shortcut to allow for the easier and more efficient processing of information (Bordalo et al., 2016). These categorizations become stereotypes when we attach an underlying value or judgement based on past experience or societal messaging. Some are nothing more than inaccurate and derogatory characterizations based on bias or prejudice and are easily dismissed because they are socially unacceptable (i.e. ‘Mexicans are drug dealers, criminals and rapists’). Others, however, are more benign because they are not negative per se and have an element of truth as they are based on key or dominant aspects of the group (i.e. men are competitive, women are collaborative). However, these generalizations rarely are accurate for the assessment of individuals. This is problematic, especially in the workplace when stereotypes lead to sex-role stereotyping and gender segregation.

The consensus view is that gender stereotypes are a significant barrier to women’s advancement to leadership positions as they lead to various forms of discrimination. Gender stereotypes consist of both descriptive and prescriptive

stereotypes. Descriptive stereotypes refer to traits and characteristics exhibited by each gender. Agency and communion are core dimensions of descriptive gender stereotypes and form the basis for the differences assigned to men and women. Agency is a core characteristic associated with men and represents traits such as competence, ambition, assertiveness, self-reliance and rationality. Communality, which is the core characteristic most often associated with women, embodies traits such as caring, obedience, collaboration, self-effacing and understanding (Brescoll, 2016). Descriptive gender characteristics have been relatively constant and are remarkably consistent across cultures and time (Ellemers, 2018; Heilman, 2012; Vinkenburg et al., 2011). When evaluating candidates for various roles and assignments, gender stereotypes often play a role when stereotypical gender traits inform the suitability of candidates.

This has significant implications for women aspiring to leadership roles as research confirms the masculinity of the leadership stereotype prevails (Koenig et al., 2011), where men are seen as more similar to the leadership stereotype, having agentic qualities like assertiveness, confidence and decisiveness. The stereotypical perceptions that women are less agentic than men, not qualified for leadership, and are less career motivated than men are deeply embedded in our organizations. The “think manager think male” phenomenon (Schein, 1973, 1975) is still relevant today, such that the preferred characteristics for leadership remain more male than female. The mismatch between the leader stereotype and the female stereotype means that men fit the cultural construct of leadership better than women do. While the ideas of what characteristics leaders should have are slowly evolving, the leadership stereotype is still predominantly masculine and frustrates the ambition to achieve gender equality.

Even when women break through the glass ceiling, research suggests that these women are more likely to have been promoted into high risk leadership positions, a phenomenon known as the glass cliff, where chances of failure are higher (Ryan and Haslam, 2005). Further, women who do make it to the top often experience shorter tenures (Glass and Cook, 2016), and when firm performance declines during their tenure female CEO’s are more likely to be replaced by white

men (Cook and Glass, 2014a). Unfortunately, these precarious appointments can create a damaging and self-fulfilling prophecy that women are not suited for leadership roles and essentially reinforce a preference for male leaders.

Prescriptive stereotypes, on the other hand, include beliefs about how women and men should behave, as well as beliefs about how they should not behave (i.e. women should not be authoritative and ambitious and men should not be sensitive and self-effacing). The 'men take charge and women take care' idiom implies that the agentic nature of men aligns with the take charge nature of jobs in management and leadership roles and that women are best suited for jobs that are nurturing and require a more collaborative approach, such as nursing, teaching or other care-taking roles. This means that the female gender stereotype is in conflict with the leadership stereotype. Moreover, there does not seem to be a way to reconcile this conflict. For example, research shows that women leaders who are more communal and collaborative in their leadership style are criticized for being deficient leaders but those who display agentic qualities of assertiveness and confidence experience backlash for not being female enough (Acker, 2012). As a result, women aspiring to leadership can expect to experience a number of consequences for violating the gender expectations in the workplace including lower pay, fewer opportunities and more obstacles in attaining leadership roles, less positive attitudes toward female leaders and a lower probability of being recognized as competent (Eagly and Karau, 2002; Heilman, 2012).

Further, gender stereotypes are highly resilient. Notwithstanding the significant changes in society in terms of male and female roles, women's increases in human capital and significant participation in the workplace, gender stereotypes remain entrenched and the masculinity of leadership prevails (Koenig et al., 2011). Results from a study comparing views on male and female traits done in 2014 shows that people's perception of the differences between men and women on stereotypic components were as strong in 2014 as they were over three decades ago (Haines, Deaux and Lofaro, 2016). This suggests a high degree of

essentialism in gender beliefs and provides some insight into the difficulties in their transformation.

The closer alignment between the male stereotype and the leadership stereotype gives men significant advantages in being selected for hiring and promotions decisions, and this is especially true for high status leadership roles (Eagly and Karau, 2002). This similarity between the male stereotype and the leadership stereotype serves to both explain and justify the gender gap in leadership. Disrupting gender stereotypes at the organizational level have proven difficult since they are informed by social values and beliefs, however, the leadership stereotype may be more easily transformed to the extent that those in the leadership roles become more diverse.

Next, I look at the modern organization, how it became gendered and its role in creating and sustaining gender discrimination in the workplace.

### **1.5.3 Gendered Organizations**

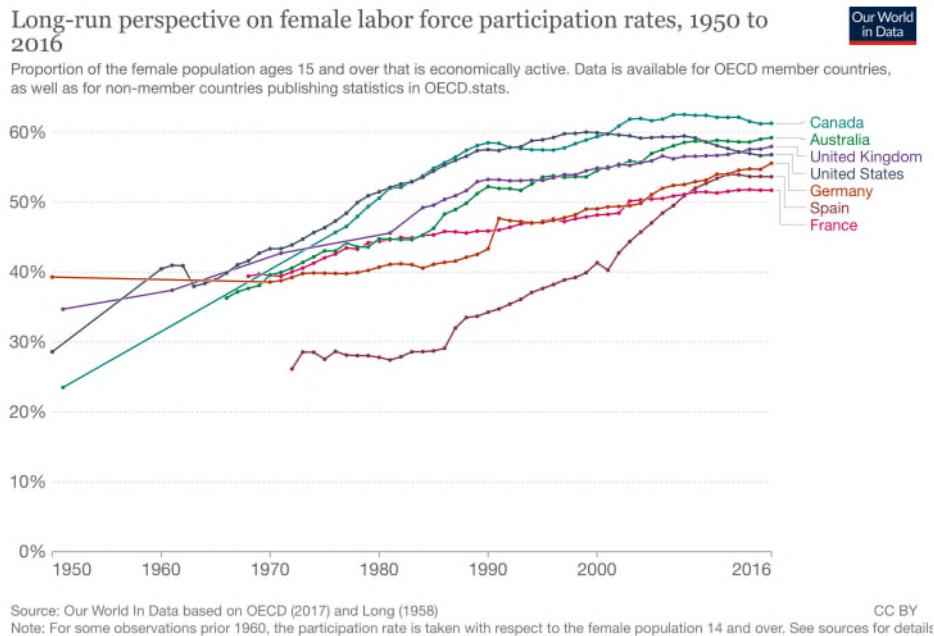
Organizations are social systems designed to coordinate the collaboration of its members (and the employment of other resources ) to achieve prescribed goals and objectives by extracting value from commercializing ideas, relationships or technologies (Amis et al., 2018). Importantly, as social systems, organizations will naturally reflect and incorporate social norms and beliefs into their practices and structures.

Today's organizations are largely a product of our post-industrial society, beginning the in the 1950's. At that time the workplace was dominated by men and virtually all leadership positions were occupied by men. The women that did work were mostly concentrated in secretarial or support roles with little or no discretion or authority or the opportunity for advancement. Perhaps, it should not be surprising then, that the organizational structure that emerged was a hierarchical structure with a command-and-control male leader providing direction and decision making. An organization based on hierarchy and

competition where employees (men) who enacted the preferred agentic qualities for management and leadership were rewarded with promotions and development opportunities that prepared them for leadership roles. From the beginning, organizations were built based on male leadership characteristics, mostly because they dominated the landscape.

At that time women's participation in the workplace was less than half what it is today but has since grown substantially. The labour force participation rate of women has grown remarkably in many Western developed nations (Ortiz-Ospina, Tzvetkova and Roser, 2018) (see Figure 2 below). In the UK, between 1950 and 2016 the percentage of women engaged in paid work grew from just under 35% to almost 58%, the third highest after Canada and Australia. A number of factors contributed to increases women's participation in the workforce during the 1950's including the increase of clerical jobs, the creation of part time work and a greater acceptance of married women working. However, women were still secondary earners in their households and it was generally assumed, and largely accepted, that women were not suited for leadership roles and were not interested in pursuing them anyways. For the most part women in the workforce complied with their gender role expectations, remaining in lower echelons of organizations and as a result, gender segregation was regarded as a natural result of both the characteristics and preferences of men and women (Amis et al., 2018).

**Figure 2: Female Labour Force Participation Rates (Ortiz-Ospina, Tzvetkova and Roser, 2018)**



For the women who wanted more out of their careers and wanted to progress into management and leadership roles, not only would they need to overcome stereotypical expectations but also the gendered processes in organizations that favoured men.

At the time, the concept of gendered organizations did not exist. Organizations were considered to be rational, gender neutral entities and would make gender neutral choices when it came to hiring and promotion decisions (Acker, 1990). It wasn't until 1970's when Ruth Kanter's published a detailed account of gender inequality in the workplace did gender get put on the map in the context of organizational dynamics (Lewis and Simpson, 2012). Kanter was the first to postulate that career success is less about the different characteristics of men and women but critically dependent on their placement in the organization and the influence of sex role stereotypes. Gender role stereotypes often meant that women were allocated to jobs with little opportunity for advancement and no

access to power which left them stuck in the lower levels of the organization (Kanter, 1987).

Later (Acker, 1990) argued that, indeed, organizations are not gender neutral. Organization structures, hierarchies and processes are based on deeply embedded gendered substructures. Substructures which are gendered mainly because they were developed on an abstraction of an ideal worker who was, in reality, male. Therefore, the concept of a job and the characteristics necessary to perform it are unavoidable gendered and therefore, logically men will be the preferred candidates, especially for important leadership roles.

This means that career consequences for women will only become more challenging as they move up the corporate hierarchy. They will be increasingly viewed as less and less suitable for more senior jobs that increasingly align more with the male leadership stereotype, eventually resulting in very limited access to the line role assignments with profit and loss responsibilities which are considered essential for CEO roles (Fitzsimmons and Callan, 2016). This will also lead to a reduction in the availability of senior women as role models and mentors which can be a significant barrier to women's career progression (Cho et al., 2019; Sealy and Singh, 2010).

Notwithstanding the growing presence and equalization of women in the workforce, these gendered organizational structures have not changed much and frustrate women's advancement into the upper echelon of organizations. Indeed (Stainback, Tomaskovic-Devey and Skaggs, 2010) suggest that "organizations are the primary site of the production and allocation of inequality in modern societies".

Even when new organizational models are introduced, such as the agile organization that discards the traditional organization structure characterized by hierarchical structures and bureaucracy in favour of a flatter management structure where work is organized around self-managed teams, it is not clear the gendering processes are modified to be more gender equal. For example, two of the most gender unequal industries, high-tech and financial services, are taking the lead in the adoption of agile transformations (McKinsey, 2018). Moreover,

the organizational logic embedded in the new organizational models shifts away from formal HR practices which are associated with mitigating fatherhood premiums and motherhood penalties (Fuller and Cooke, 2018). Instead, individual bias may inadvertently be re-introduced when rewards and promotions are at the discretion of individual supervisors (Williams, Muller and Kilanski, 2012).

A gendered system means that it is difficult for women to have equality in their career paths and so face disadvantages at every stage in their career. In addition to unequal access to promotions and rewards, they often face difficult workplace cultures, subtle sexism and micro-aggressions that are disrespectful and exclusionary (McKinsey & Company, 2018).

The concept of gendered organizations has been an important development in both shifting the conversation away from how women aren't fit for leadership and in presenting organizations themselves as reflections of cultural and society biases, a key barrier in and of themselves in achieving gender equality. This acknowledgement has led organizations to implement a number of diversity and inclusion programmes in an attempt to overcome the discrimination that women experience in their careers. These are discussed below.

#### **1.5.4 Organizational Initiatives**

Overcoming bias and discrimination has been a challenging and stubborn problem. However, much of the mitigations offered and implemented by organizations to overcome the disadvantage women leaders have in career progression are accommodative rather than dealing with the structural and systemic biases resulting from both the gendering of organizations and the impact that gender stereotypes have and how they play out in the organizational settings.

Organizations have made many very public commitments and initiated many programs including; introducing gender neutrality into their HR policies and practices, networking and mentoring programs for women, work family policies and gender bias training, all with little effect at the senior levels. Implementation

of these diversity programs have done little more than provide an illusion of fairness (Kaiser et al., 2013) as they have not resulted in more opportunities for women and in some cases have served to reinforce gender inequalities (Kossek, Su and Wu, 2016; Lup, Beauregard and Adamson, 2018; Williams, Kilanski and Muller, 2014).

Mentoring is another common tactic employed by many organizations to provide advice, counselling and guidance for career management. Mentoring, however, as a mechanism to increase promotion rates, has been largely ineffective as mentors are typically not part of the decision-making process. Without an influential sponsor to advocate for their protegees, women are likely to continue to be overlooked for promotions (Ibarra, Carter and Silva, 2010).

While overt sexism has been somewhat mitigated, or at least pushed underground, attention has turned to unconscious bias as an impediment to gender equality. Unconscious bias are views and beliefs that we are unaware of. Everyone has these biases and they are a result of the culture we were born in, how we were raised and our personal experiences. A popular intervention has been unconscious bias training programs. The impact of these programs has been mixed at best, and can backfire and may actually reinforce stereotypes and biases (Atewologun, Cornish and Tresh, 2018).

Flexible workplace policies are another popular approach to level the playing field for women. There is, however, evidence that women don't take advantage of these for the real and perceived 'flexibility' stigma leading to wage penalties (Fuller and Hirsh, 2019) or being excluded for promotion altogether (Glass and Fodor, 2018). Instead, many women end up accepting lower status or part time work or exiting the workforce all together (Cahusac and Kanji, 2014). A recent Canadian study provides some evidence of these penalties reducing, particularly in family friendly countries, however they still find that more educated women are likely to experience wage penalties when taking advantage of flexible working options (Fuller and Hirsh, 2019).

While some have advocated for a focus on organizational initiatives like developing inclusive talent management programs rather than fixing women

(Turnball James, Vinnicombe and Harris, 2018; Vinnicombe et al., 2015; Vinnicombe, Doldor and Sealy, 2018), others continue to focus on fixing women rather than on the more difficult work of transforming organizational processes and orientations. For example, Sheryl Sandberg's popular book 'Lean In', advises women to 'lean into' removing their own internal barriers in order to advance their careers. This suggests that women should try to fit in to existing (masculine) leadership norms. They are told that they need to carefully combine the agentic qualities that are important in securing a leadership position and then to demonstrate communal behaviour so they don't experience the backlash effects by violation stereotypical gender expectations (Schock et al., 2019).

Scholars have optimistically postulated that the increases in women in leadership positions along with the reduction in traditional thinking with respect to male and female roles should provide a more even playing ground for women climbing the corporate ladder. As early as 2002 (Eagly and Karau, 2002) suggested that in order to see impactful change in reducing discrimination it would be necessary to see changes in gender roles, leadership roles or more likely in both and they hypothesize that the new organizational models with team based leadership, participatory decision making and open communication should facilitate the movement of women into senior leadership roles. Further, in 2011, (Koenig et al., 2011) point to empirical research that demonstrates that an increase in the number of women leaders can produce a more androgynous concept of leadership and thereby reduce bias toward current and potential women leaders. Later, (Leicht, Randsley de Moura and Crisp, 2014) hypothesize that engaging with counter-stereotypic gender role models may reduce heuristic forms of thinking and result in improved fairness in leadership selection. Two decades later we are still waiting for meaningful progress.

Paradoxically, not everyone subscribes to the idea that gender inequality is the result of gendering processes in organizations. Some find it in conflict with the neoliberal concept of individual autonomy where individuals have free choice and therefore are responsibility for their own destiny. Further, millennial women are much more likely to feel that gender inequality was an issue that previous

generations had to face and because they believe organizations are meritocratic and any gender differences that remain are due to choice rather than discrimination (Kelan, 2014).

Bottom-up mitigation efforts aimed at helping women overcome inherent biased processes and advising work arounds have not been effective in overcoming biased processes. This focus on fixing women is misplaced. (Arnold and Loughlin, 2017) argue that the advancement of women into senior leadership should not be a strategy pursued by the individual but one pursued by the organization and society in order to begin break down the barriers created by gender stereotypes. It would appear that governments agree, as a focus on improving the gender balance for women in senior leadership roles has been a cornerstone of many country's gender equity policies. These are discussed below.

### **1.5.5 Government Initiatives**

During the 1960's and 1970's, the civil rights and women's movement worked to challenge gender inequalities which resulted in affirmative action programs and various equal opportunity legislations such as the Equal Pay Act in 1963 in the US and 1970 in the UK. Despite these interventions, inequity has persisted in pay, the sex segregation of jobs continues and access to promotions and leadership opportunities remains biased.

In response to this slow progress, governments have begun to introduce more legislation and regulatory requirements in an attempt to foster the progression of women into senior executive positions and leadership roles. Many jurisdictions have adopted quota programs to encourage the appointment of women to corporate boards and top management teams. Norway was the first to pass its quota law in 2005 mandating that women represent a minimum of 40% of corporate boards for companies listed on the Oslo Stock Exchange. A number of other countries followed Norway's lead and have also installed mandatory quotas. Denmark, France, Iceland, Norway and Spain now all require at 40% of

corporate boards to be comprised of women. Germany, Italy Belgium and Portugal require between 20-35% of board seats to be filled by women and India, Finland and Israel have mandated at least one women on each publicly listed company (The Organisation for Economic Co-operation and Development, 2019).

Elsewhere, regulators have been reluctant to impose regulations at the risk of being accused of infringing on the autonomy of corporations and have therefore tended to provide regulatory guidance, comply or explain programs and voluntary disclosure programs. The United Kingdom and the United States are two notable examples. In the UK, the Corporate Governance Code includes the promotion of gender diversity as a guiding principle leaving the business community to develop its own initiatives (Financial Reporting Council, 2018). In the United States there are no federal policies for gender diversity as authority is delegated to the individual states. To date, California is the only state to enact a law requiring a minimum number of women on corporate boards (The Organisation for Economic Co-operation and Development, 2019).

Arguments for board gender diversity rely on two main arguments, the business case and the social justice case. Both arguments assume that improvements in the upper levels of the organizations will improve the gender balance throughout the organization. While these hard and soft quota programs, voluntary targets and comply or explain programs have been focused on increasing the number of WoB, there was an expectation that these programs would be a top-down approach to improve gender diversity in organizations more broadly. The objective was not to increase opportunities for the very small percentage of women achieving a seat on the board, but to create a pull through the corporate pipeline that would encourage and support women's progression through their careers while visibly demonstrating that accessing higher levels of corporate leadership is indeed a possibility.

In terms of encouraging more gender diversity below board, new regulatory support has been introduced in a number of G20 countries. As of 2019, 22% of G20 jurisdictions are required to also disclose the gender composition of senior

management. Consistent with their approach for board quotas, there are no regulations for disclosure for senior management composition in the U.S. and the UK relies on voluntary disclosure (The Organisation for Economic Co-operation and Development, 2019). Impressively though, the business led initiatives in the UK, although voluntary, has achieved full compliance for disclosure. All FTSE 350 now disclose the gender composition of their boards and senior management teams.

The business led initiatives in the UK were core aspects of industry efforts to improve gender balance in senior leadership roles. Their background and progress is discussed below.

### **1.5.6 Practitioner Initiatives**

The business led gender diversity initiatives in the UK were launched after the release of the Higgs Review which reported on the effectiveness of non-executive directors and was followed by the Tyson Report which issued recommendations for improved recruitment and selection of non-executive directors and improved board gender diversity (Tyson Report, 2003). The Davies Report was launched in 2011 which outlined a voluntary approach for businesses to improve female representation on FTSE 100 and FTSE 250 companies. Their mandate was to champion voluntary targets for WoB and produce annual updates on their progress. The Davies report set a target for WoB of 25% to be achieved by 2015. During this time the representation of WoB grew from 12.5% in 2011 to 26.1% in 2015. The Hampton Alexander Review continued the work of the Davies Report increasing the target for WoB to 33% by 2020. In addition to boards targets, the Hampton Alexander Review extended the 33% target to include the senior management positions. The definition of senior management adopted by the Hampton Alexander Review includes the Executive Committee and their direct reports (those reporting directly to Executive Committee members). At the end of Hampton Alexander Review in 2021, FTSE 100 companies, on average, met the 33% target for WOB but missed the target for senior management. On an individual company basis, 68 of FTSE 100 companies met the 33% target for

WoB with only 37 meeting the target for women in the executive leadership level and 29 meeting both. Further, outcomes were uneven ranging from between 17% and 60% for senior executive levels (see Table 1) (Hampton Alexander Review, 2021).

**Table 1- FTSE 100 Progress Towards Voluntary Targets for Improved Gender Balance in Senior Leadership Level**

FTSE 100 Progress Towards Voluntary Targets					
	Number of Positions Available	Number of Positions Held by Women	%	Number of Companies Achieving 33% Voluntary Target	Range of Female Representation
<b>Women on Boards (WOB)</b>	1,032	374	36.2%	68	10.6% - 53.8%
Non Executive Directors	814	343	42.1%		
Executive Directors (including 8 female CEO's)	218	31	14.2%		
Women on Executive Committees	1,123	298	26.5%		
Women Direct Reports	7,867	2,455	31.2%		
<b>Total Women Senior Executives (Executive Committee &amp; Direct Reports)</b>	8,990	2,753	30.6%	37	16.7%- 60%
<b>Number of Companies Achieving both industry targets</b>				29	

Source: Hampton Alexander Review, FTSE 100 Women Leaders 2021

## 1.6 DISCUSSION

Gendered organizations, built by and for men, continue to disadvantage women in moving through the corporate pipeline and limit their advancement and career success. Implicit and explicit bias underpinned by persistent gender stereotypes operates at the individual, organizational and societal level and serves to support the status quo. Even after the significant social changes we have seen with respect to women's equality and empowerment, gender role stereotypes remain

influential and their legacy endures. Career advancement for women is fraught with obstacles including biased hiring and promotion processes, limited availability of mentors and role models and rarely do women get access the important development experiences that their male colleagues do. Organizational diversity programs to address these have had limited success in levelling the playing field and government and practitioner initiatives have had limited and uneven success.

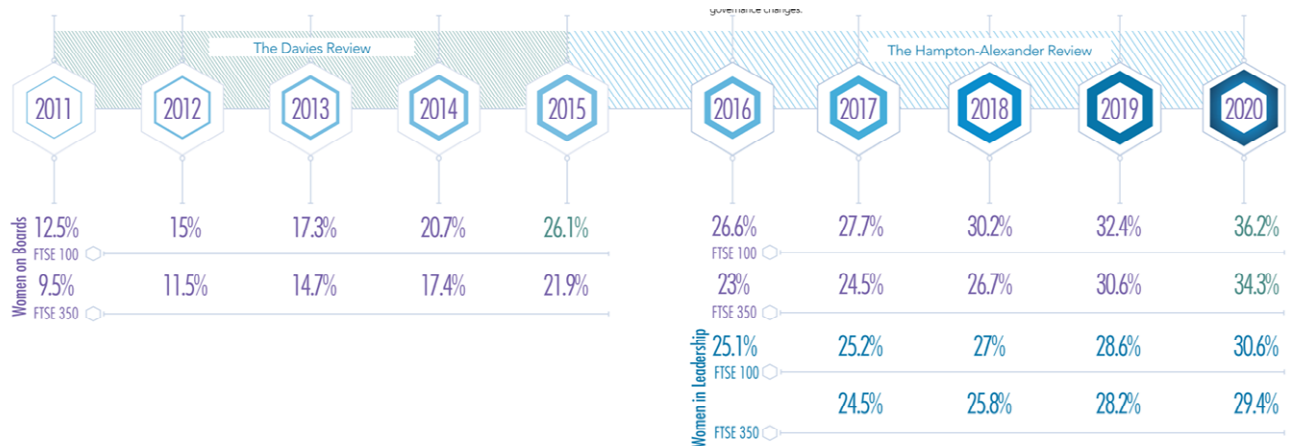
How then can we reduce discrimination and create more inclusive organizations? Policy makers and regulatory agencies can continue to support and progress change with stronger guidance and enhanced disclosure requirements for diversity reporting. Similarly, business led groups like the FTSE Women's Leader Review, The 30% Club and Women in Finance Charter can continue to agitate for change by championing gender diversity initiatives and providing leadership to their peers. Grass roots organizations can also support the cause as they can be important in helping to mainstream gender diversity issues more broadly. However, at the organizational level, perhaps more can be done.

A solution to the gender inequity problem may be found by considering an overlooked aspect. While there is certainly a gender equity problem in workplaces across nations, industries and organizations and there has been a lot of focus and attention in redressing it, there is less talk about the inequality of power in organizations, especially in key decision making and influencing roles. Female representation in key decision-making roles is extremely limited, especially in the most senior and powerful roles of CEO and Board Chair. Undoubtedly organizational leadership has a significant role to play in either sustaining and reinforcing or in dismantling and reducing gender bias and discrimination. Ultimately, they are the ones who determine who to hire or promote and how organizational rewards are allocated.

One area where we have seen improvements in this power imbalance in the UK is on the board of directors. As a result of government and business led initiatives, the representation of WoB has seen significant progress growing from

12.5% to 36.2% for FTSE 100 companies and from 9.5% to 34.3% for FTSE 250 companies (see Figure 3 below).

**Figure 3 - Women on Boards, 2011-2020 (UK)**



Taken from Hampton Alexander Review: FTSE Women Leaders (Hampton Alexander Review, 2021)

### 1.7 Research Direction – A Systematic Literature Review

Noting the significant improvements in the numbers of women on corporate boards as being a possible influencing factor improving gender balance below the board, the next step in this research project will be to conduct a systematic literature review. The review question is as follows:

**What is the impact of the gender balance of boards on the gender composition of executive positions?**

The next chapter presents a systematic literature review of this review question. The extant literature covers many literature domains from organizational behaviour to economics, finance and accounting, general management and sociology. Most empirical studies examine the proportional representation of WoB on a number of diversity outcomes, and more recently have been able to

examine the effect of critical mass, which has been the main theoretical lens for work to date. An emerging stream of research suggests, however, that women directors with power and influence may be more important than just the sheer numbers of WoB in influencing gender diversity outcomes.

## **2 SCHOLARSHIP – A SYSTEMATIC LITERATURE REVIEW**

### **2.1 Purpose and Scope of the Review**

The purpose of this review is to examine the existing literature, focusing on a subset of a theme identified by Kirsch's in her 2017 literature review on the gender composition of corporate boards (Kirsch, 2018). That is, the impact of the gender composition of corporate boards on gender diversity below the board. As the presence of WoB has been increasing in many Western countries over the past decade, a relevant question is 'what has the improving gender balance of corporate boards done to improve opportunities for women to secure access to and be successful in executive roles?' Therefore, the aim of this systematic literature review is to document, analyze and critique the available literature to determine what we know about the impact WoB have on women's motivation to pursue executive roles, their ability to secure and be successful in them and the dynamics that operate to support or hinder this. Noting that Kirsch found only 16 articles, the search strategy and choice of key words was designed to be as broad as possible to locate relevant articles.

### **SYSTEMATIC LITERATURE REVIEW PROTOCOL**

A systematic literature review provides a convention to review, map and access the relevant literature with a protocol that is systematic, transparent and reproducible (Tranfield, Denyer and Smart, 2003). The process outlined below is based on that protocol.

### **2.2 Key Search Terms**

My objective in this literature review was to locate research on WoB to understand if and how the presence of WoB impacts the progression and success of women moving up to and achieving executive level appointments.

In identifying and finalizing the key search terms, I conducted a number of pilot searches in the EBSCO database. I first attempted to use specific terms such as *glass ceiling*, *glass cliff*, *career progression*, *career development*, *career advancement*, and *promotion* instead of the more generic gender diversity terms in an attempt to provide more focused results, however, a number of articles that I would have expected to see were not returned. *Diversity begets diversity? The effects of board composition on the appointment and success of women CEOs* (Cook and Glass, 2015a) and *Do women leaders promote positive change? Analysing the effect of gender on business practices and diversity initiatives* (Cook and Glass, 2016) were two notable examples. As a result, I choose to go with the broader terms relating to gender equity and narrow the results further after reviewing the results.

### **Mapping the field of research**

The following diagram (Figure 4) helps to illustrate the three subject areas targeted in this review. The overlap in the diagram below highlights the specialized subset of literature of interest: The influence/effect of WoB on women in the executive levels.

**Figure 4: Key Word Search Strategy**

***The influence/effect of WoB on women in executive levels***

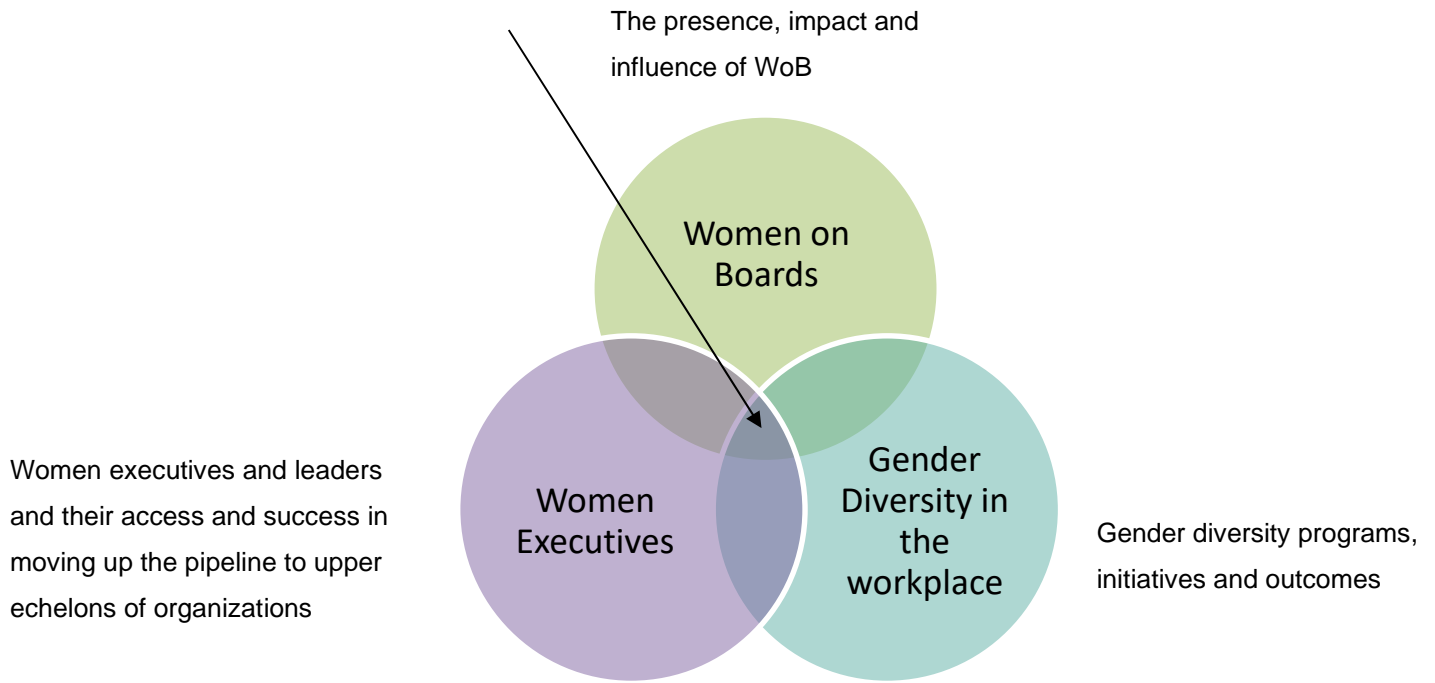


Table 2 below shows the keywords associated with each of the three subject areas.

**Table 2: Keywords**

<b>Subject Area</b>	<b>Keywords</b>	<b>Rationale</b>
Women on Boards (WoB)	Wom?n	These terms are intended to capture articles discussing WoB
	Female*	
	Board*	

	Director*	
Women executives	Wom?n	These terms were selected to capture articles considering senior women leaders
	Female*	
	Executive*	
	Lead*	
Gender diversity	gender*	These terms are wide-ranging to generate articles dealing with gender equity
	divers*	
	equality	
	inequality	
	inclus*	

### 2.2.1 Search Strings

After identifying the key search terms, it was equally important to combine them in a coherent and consistent way such that the databases were queried to deliver, hopefully, the most relevant and appropriate articles germane to the review question. As noted above, the search terms are quite broad and generic, however, combining them will hopefully target the articles of interest.

Table 3 below shows how the search strings were constructed and a rationale for each.

**Table 3: Search Strings**

<b>Search String</b>	<b>Rationale</b>
(wom?n OR female*) AND (board* OR director*)	This search string is designed to identify articles discussing WoB
(wom?n OR female*) AND (executive* OR lead*)	This string is designed to identify those articles considering senior level women

As I am looking for articles that include all three domains, I have simply used each group of search terms joined with 'AND' as follows:

( (wom?n OR female\*) AND (board\* OR director\* OR non-executive director\*) ) **AND**

( (wom?n OR female\*) AND (executive\* OR lead\*) ) **AND**

( gender\* OR divers\* OR equality OR inequality OR inclus\* )

The search was limited using two primary limiters, namely 'Peer Reviewed Journals' and 'English language'.

## **2.3 Databases**

After consultation with my supervisors, Professor Sue Vinnicombe and Dr. Doyin Atewologun as well as Mary Betts-Grey, Business Information Specialist at Cranfield University, two primary databases were selected for this systematic literature including EBSO and ABI/Inform ProQuest. These databases cover

the main journals that would publish articles relevant to my search area. I selected a timeline beginning in 2005. 2005 was chosen to ensure the timeliness and relevance of studies to the evolving nature of gender diversity in organizations.

### 2.3.1 Other Information Sources

While practitioner or generic literature are certainly interesting and have been prolific on this subject, they are not included as they are not expected to add to this literature review in terms of rigour and evidence.

Working papers and conference proceedings were also not included in the search due primarily to two reasons. First, working papers and conference proceedings have not gone through a rigorous review process and as such it is difficult to assure the validity of their results and secondly, it is often difficult to find relevant literature prior to its publication.

A third source of information is books, however, I have not included them in my search for this literature review on the basis that any theoretical or empirical results covered in books are likely to have been published as journal articles. The following table (Table 4) summarizes the initial results on the database search.

**Table 4: Database Results**

Database	Date Accessed	Initial Results	After Removal of Duplicates
EBSCO	Sept 25, 2019	769	767
Proquest ABI	Sept 25, 2019	772	605
	<b>Subtotal:</b>	<b>1,541</b>	<b>1,372</b>
<b>UPDATE: MAR 2022</b>			

EBSCO	Mar 8, 2022	247	245
Proquest ABI	Mar 7, 2022	218	139
	<b>Subtotal:</b>	<b>465</b>	<b>384</b>
	<b>TOTAL:</b>	<b>2,006</b>	<b>1,914</b>

The database search provided a surprisingly high number of articles, especially considering that Kirsch's 2017 literature review (Kirsch, 2018) on the gender composition of corporate boards only found 16 relevant articles. The design of the search strings using the Boolean operator 'AND' should have returned articles with all terms included. A cursory review revealed that the search algorithm in both databases was returning articles which were based on any of the search terms and the combined search string. As a result, I expect that many of these articles will not be relevant for this review. In addition to eliminating articles that do not pertain to my review question, the following selection criteria will also be used.

## 2.4 Selection Criteria for Journal Articles

When conducting a systematic literature review it is important to create boundaries to determine whether they should be included or excluded in the final list of the articles to be included in the systematic literature review. These limits are important to ensure that a consistent approach is taken to select articles that can make a relevant contribution to the literature review.

The articles of interest are those that study whether, if or how the presence of women board members effect gender diversity outcomes, improve the experience or provide support and motivation for women in the ranks below them. Given the relatively low number of articles found in Kirsch's review, I have also included articles that discuss the impact of female senior managers on ranks below them. Articles dealing with universities or public sector organizations were

excluded as their governance structures and objectives are very different from commercially oriented organizations.

Table 5 below outlines the selection criteria for including an article in this review.

**Table 5: Selection Criteria**

<b>Criteria</b>	<b>Rationale</b>
Only articles appearing in peer reviewed journals will be included in the review.	Working papers, conference proceedings, book and practitioner articles lack the necessary scientific rigour.
Only articles providing a theoretical or empirical approach are to be included.	Editorial, introductory articles and commentaries will be excluded as relevant articles should have appeared in the database search
Any articles investigating organizations in the not-for-profit sector or governmental organizations will be excluded.	My research is interested in gender equity in for profit organizations. The structure and selection process for not for profits and government organizations is dissimilar to corporations and therefore not particularly useful.

## **2.5 Quality Criteria**

Choosing and employing a quality criterion can be tricky in that, particularly in the field of management, the assessment is often subjective and as such may lead to the exclusion of an article that potentially could provide additional perspective or nuance in the review. In developing the quality criteria, I first

reviewed and then adapted the guidelines prepared by Academy of Management Review Guidelines for Reviewers. They list four quality criteria including (1) theoretical contribution, (2) interestingness, innovativeness and novelty, (3) empirical contribution and (4) methodological rigor.

Table 6 below defines the quality criteria used in determining whether an article is included in this review. The quality criteria were applied after screening for title, abstract and after eliminating those that were not peer reviewed.

**Table 6:Quality Criteria**

Element	Description	Grading Scale		
		0 – Low or Absent	1 - Medium	2- High
<b>Theoretical Contribution</b>	Does the article extend theory, advance knowledge of the concepts, relationships, models, or theories embedded in the relevant literatures?	Not enough information presented to assess	Paper builds on existing theory	Paper develops new or revised theory
<b>Interestingness, Innovativeness, &amp; Novelty</b>	Does the article examine new constructs, phenomena, or relationships?	Not enough information presented to assess	Paper builds on a new theory, model or approach	Paper introduces a new theory, model or approach

	Does it test its predictions in an unconventional, or unexpected way?			
<b>Empirical Contribution</b>	Does the article add to existing knowledge in an important and useful way?	Not enough information presented to assess	Contribution to knowledge is limited in importance/significance	Contribution to knowledge is significant
<b>Methodological Rigor</b>	Do the methods, observations, procedures and analyses ensure internal and external validity. Are the methods and procedures appropriate?	Not enough information presented to assess	Appropriate research design and methodology and results are relevant to the papers conclusions	Good research design and methodology resulting in strong and significant results enabling the conclusion

Any articles rated 0 (Low or Absent) on any of the four elements were excluded. After reviewing the articles based on the quality criteria above only one article was excluded. A paper on a survey study designed to study female managers perceptions on the effectiveness of corporate governance in the Lebanese banking system was excluded. After reading the article (Jamali, Safieddine and Daouk, 2007), I felt the managers opinions of the how their banks boards operated went beyond their expertise and for this reason the article was excluded on the basis of empirical contribution.

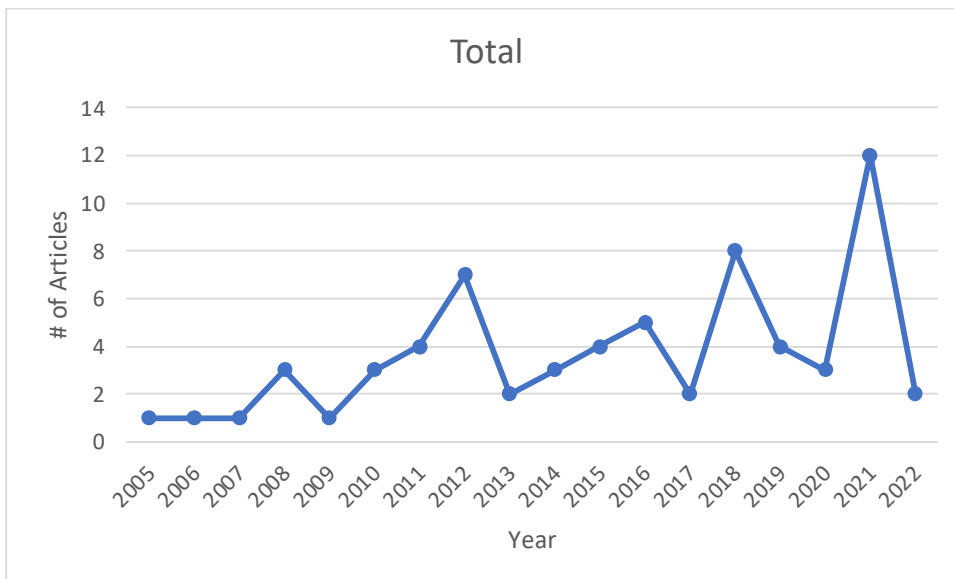
After applying the selection and quality criteria above the number of relevant articles remaining was 33. After reviewing these 33, a number of articles I expected to be located were absent. For example, two articles that explicitly studied the impact of women in leadership on women’s access to and tenure in CEO positions and another on the impact of board quotas on female executives were not found. (*Breaking the Glass Ceiling? The Effect of Board Quotas on Female Labour Market Outcomes in Norway* (Bertrand et al., 2019) and *Women and Top Leadership Positions: Towards an Institutional Analysis* (Cook and Glass, 2014)). I therefore conducted a snowballing technique where I reviewed the references and citations of the 29 to locate additional relevant articles. As a result, a further 20 articles were identified, and these were also subject to the same selection and quality review process resulting in a total of 49 articles. In March 2022 I updated the literature review finding an additional 17 articles published between September 2019 and March 2022. Table 7 below provides a summary of the selection and exclusion process.

**Table 7: Summary of Selection Criteria**

ARTICLES FROM	INITIAL COUNT	ELIMINATED BY:				
		TITLE	ABSTRACT	NOT PEER REVIEWED	QUALITY ASSEMENT	FINAL TOTAL
DATABASES (SEPT 2019)	1,081	(710)	(339)	(2)	(1)	<b>29</b>
SNOWBALLING/ HANDSEARCH (JAN 2020)	20					<b>20</b>
DATABASES (MAR 2022)	384	(339)	(29)	(1)	(0)	<b>15</b>
SNOWBALLING/ HANDSEARCH (APR 2022)	2					<b>2</b>
<b>FINAL TOTALS</b>	1,487	(1,049)	(368)	(3)	(1)	<b>66</b>

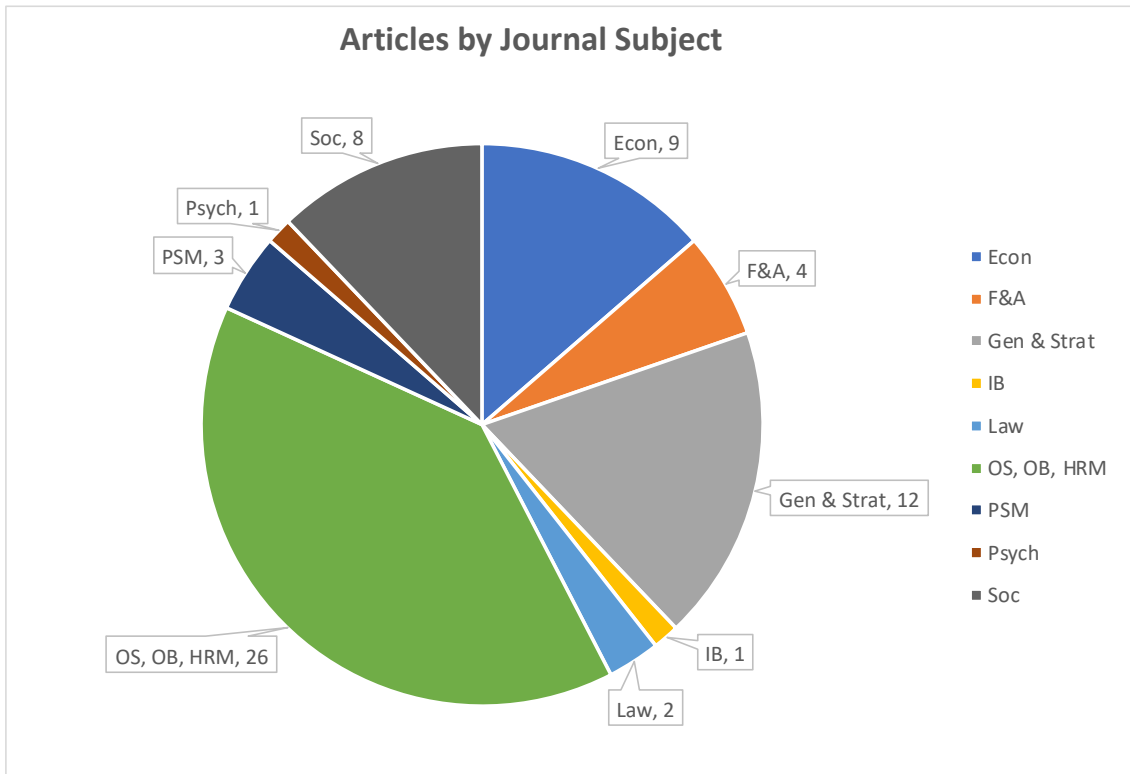
The 66 journal articles selected for this review were published between 2005 and 2022. The trend line in Figure 5 below shows a general increase in the level of academic interest over the period. It has been somewhat sporadic in nature and the total numbers of articles each year were relatively low. There was, however, a significant uptick in published articles in 2021/2022, perhaps indicating a renewed interest in how WoB are influencing gender diversity objectives in organizations.

**Figure 5: Journal Articles By Publication Year**



The 66 articles were published in 51 journals. Overall, there is diverse interest in the topic with articles appearing in journals covering a wide range of subject areas. Figure 6 below charts the articles by subject area. Nearly 40% (26) of the articles were published in Organizational Behaviour or Human Resource Management journals and a further 18% (12) in general management journals. 12% (8) were found in social science journals and 14% (9) in economics, with the balance in finance and accounting, public sector management, law, psychology and international business.

**Figure 6: Articles by Journal Subject**



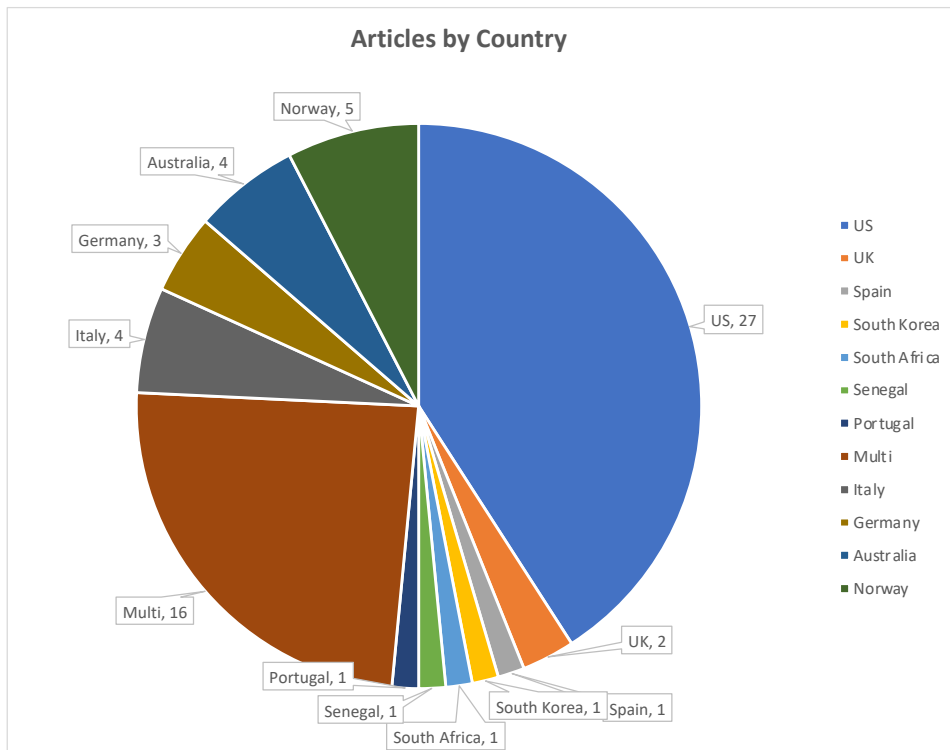
**Notes:**

*Categorized as per Journal Quality List (July, 2021 edition)*

*10 Journals not listed in the Journal Quality List were categorized by the author*

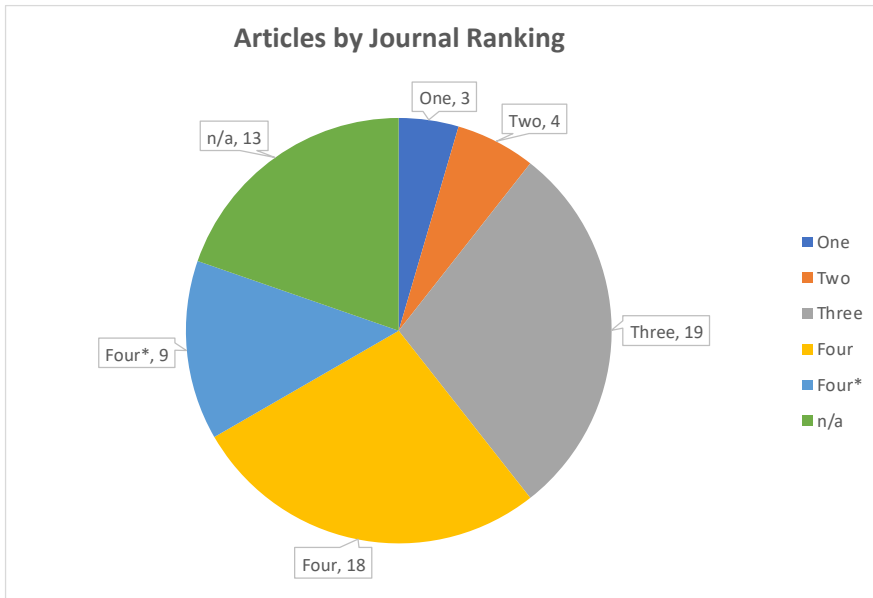
Figure 7 below shows the distribution of articles by country. The vast majority of studies (27) were from the US. Sixteen were multi-country studies, five from Norway, four from Italy and Australia, three from Germany, two from the UK and five other single country studies.

**Figure 7: Articles By Country**



While the numbers of articles included in this review may be somewhat limited, these studies have appeared in a number of highly ranked journals. I referred to the Journal Quality List and used the Association of Business Schools classifications for research output to rank each of the journals. Nearly 70% (46) were sourced from 3-star journals or higher, including nine in 4\* journals (Academy of Management Journal, Administrative Science Quarterly, American Economic Review, American Sociological Review, Journal of Financial Economics, Journal of Management, Organization Science, Review of Economic Studies). This level of quality provides a level of confidence for reported results and conclusions. There were, however, 13 articles published in journals that were not classified by the ABS but were published in refereed and/or peer review journals as per Ulrich's Periodicals Directory. Four of these were in political science journals, two in law journals, two in social science journals and the remaining four in miscellaneous subject areas. Figure 8 below shows the articles by journal ranking.

**Figure 8: Articles by Journal Ranking**



**Notes:**

*Journal Ratings based on ABS 2018 (Association of Business Schools) compiled in the Journal Quality List (July 22, 2019 edition)*

**2.6 Systematic Literature Review: Overview**

There were two large scale reviews on the gender composition of corporate boards that helped to position this review. (Terjesen, Sealy and Singh, 2009) reviewed over 400 publications including articles, book chapters, working papers and reports and organize their analysis from three perspectives; (1) theoretical, (2) characteristics of women directors and (3) impacts of WoB on organizational outcomes. (Kirsch, 2018) on the other hand examined a total of 310 articles published between 1981 to 2016. She identified and categorized the articles into four themes; (1) characteristics of directors, (2) factors influencing the gender composition of boards, (3) impact of quotas and regulations, and (4) how the gender composition of boards affects organizational outcomes. A subsection of this fourth theme is the impact of board gender diversity on gender diversity below the board, the focus of this literature review. In this sub-section Kirsch identified 16 articles dealing with the effects of WoB on gender diversity below the board.

Diversity outcomes included the trickle-down or spill over effect, the impact of WoB on the appointment of female CEOs, the influence of WoB on gender wage gaps and sex segregation in organizations. Terjesen et al find research where WoB impact gender diversity below the board by acting as role models and diversity supporters, enhancing organisational reputation and legitimacy and by sending important signals to current and prospective employees that enhances and supports recruitment and retention efforts. In both reviews the numbers of articles dedicated to the influence of WoB on gender diversity below the board is limited revealing an under-researched area (Kirsch, 2018; Terjesen, Sealy and Singh, 2009). This literature review includes both the effects on gender diversity below the board, which includes both outcomes (i.e. actual improvements in female representation in executive levels for example) and also research that covers aspects that improve the experience and motivation of women in the corporate pipeline (i.e. WoB influence as role models for example). In total there were 66 articles included in this literature review. A full list of articles sorted by year is presented in Appendix A.

Table 8 shows the number of articles by methodology. Most of the research has followed a positivist epistemology. Of the 66 articles, the majority of the articles are quantitative studies (48), two employed mixed methods and five were qualitative studies. Three of the papers were conceptual, two articles encompassed theory development and six were reviews of existing research, three providing comprehensive reviews and three articles reviewing specific aspects of WoB (i.e., role modelling, board gender quotas, a review of initiative to increase board gender diversity ).

**Table 8: Articles by Methodology**

<b>METHODOLOGY</b>	<b># of Articles</b>
Quantitative	48
Mixed	2
Qualitative	5
Theoretical	2
Conceptual	3
Reviews	6
<b>TOTAL</b>	<b>66</b>

Of the 48 studies conducting quantitative analysis, a form of regression analysis was used in 47 of the studies. Of these, 33 used panel data, 14 used cross-sectional data and 1 performed a meta-analysis. 17 of these studies lagged their explanatory variables to provide evidence of causality. Finally, 12 studies evaluated interaction effects to explore the combined effects of two or more variables on various gender diversity outcomes. A detailed analysis of the data sources used in the quantitative studies show that most use large databases, some covering multiple decades, which will need to be considered when evaluating the results, especially given the significant increases in WoB in many jurisdictions over the past twenty years.

Research on gender diversity in organizations has been significantly influenced by Kanter's influential book *Men and Women of the Corporation* (Kanter, 1977a). Her thesis included an extensive and integrated discussion on the consequences of the structural factors of power, opportunity and proportional representation on employees' experience at work and their career mobility. Notwithstanding this comprehensive approach to explain inequality at work, most research on board gender composition refers only to the numbers or relative proportions of WoB (DiTomaso, Post and Parks-Yancy, 2007; Ibarra, 2004).

Correspondingly, increasing the number of women and developing a critical mass of women in senior leadership has been presumed to be necessary to reduce stereotypes and facilitate the dismantling of gendered organization structures and practices that favour men. Following this logic, it is not surprising then that most

of the articles focusing on gender diversity outcomes are constructed on the numbers thesis. Of the 66 articles, 48 evaluate the numbers and the proportional representation of women directors on a number of diversity outcomes while 16 evaluate WoB in positions of power or status. Further, given the increasing numbers of female directors in many jurisdictions, many studies are able to specifically test the critical mass effect.

Board diversity is hypothesized to influence the gender diversity in the organization in a number of ways. First, based on the assumption that women will advocate for other women, women who have achieved leadership positions or organizational power can mitigate various inequality outcomes such as gender pay gaps, sex segregation and access to executive positions by advancing them for hiring or promotion, providing mentoring and access to important social networks, and influencing decisions and board dynamics that create a more female friendly organizational culture. Secondly, the visibility of WoB can send important and positive signals to other stakeholder groups including current and future employees, customers, investors and the general public.

## **2.7 Gender Diversity Outcomes and Affects**

The literature reviewed includes research evaluating gender diversity outcomes (such as gender wage gaps or improvements in the proportional representation of executive women) as well as research that considers how the presence of WoB may affect and improve the experience or motivation of women in the corporate pipeline (such as being role models or influencing the adoption of female friendly policies). I have identified a number of these outcomes and affects which are summarized in Table 9 below.

**Table 9: Gender Diversity Outcomes and Affects of WoB**

<b>GENDER DIVERSITY OUTCOMES &amp; AFFECTS</b>	<b># of Articles</b>
Trickle-down	<b>22</b>
Gender Wage Gaps	<b>13</b>
Hiring, Promotion & Post Promotion Success	<b>10</b>
Advocacy & Influence	<b>8</b>
Workplace Integration	<b>5</b>
Employee/Employer Relationship	<b>5</b>
Organizational Reputation	<b>3</b>
Role Models	<b>3</b>
Reviews	6

**Note:** some articles cover multiple outcomes or effects

The trickle-down effect has received the most attention with 22 articles, 8 of which have been published since 2020. Gender wages gaps, a metric quantifying the effect of job and role segregation, has 13 articles. The influence of WoB on the hiring, promotion and post-promotion success for women in senior roles, in particular for female CEOs, has been a popular area of research with 10 studies. Eight articles deal with if and when WoB take action to advance gender diversity in their organizations. Five studies evaluate the influence of senior women on workplace integration and five look at the influence of WoB on employee/employer relationship and three on organizational reputation. Finally, three articles discuss WoB as role models for senior women. A full list of articles categorized by gender diversity outcomes and affects can be found in Appendix B.

### **2.7.1 The Trickle-Down Effect**

Studies examining the trickle-down effect have been most popular. Trickle-down refers to the positive relationship between the presence of women in senior levels and female representation in the levels below. While the term “trickle-down” relative to organizational gender diversity was first applied by Gould et al in 2018

(Gould, Kulik and Sardeshmukh, 2018), there have been a number of previous studies that have also investigated this relationship.

Different theories are offered to explain the trickle-down effect. Gould et al suggest that similarity attraction paradigm, where people tend to be attracted to those who are similar to them and the homophily principle, which means that people tend to associate with those similar to themselves, is responsible. Both theories suggest that more WoB will result in more women in senior executive positions. Their study on 1,387 ASX firms confirms this and shows a trickle-down effect between WoB and executive women that was effective for up to five years.

Other scholars suggest various other mechanisms that underpin the trickle-down effect. Skaggs et al suggests that increasing the number of women directors will mitigate negative gender stereotypes and provide executive women with opportunities for mentorship and access to social networks (Skaggs, Stainback and Duncan, 2012). Bilimoria submits that the presence of women directors signals an organization's female friendly culture (Bilimoria, 2006) and Matsa and Miller suggest that corporate directors directly influence the selection of top executives (Matsa and Miller, 2011). Halrynjo and Blair-Loy rely on in-group favouritism to explain how the presence of WoB positively impacts gender diversity in executive levels (Halrynjo and Blair-Loy, 2021).

All four of these US studies have similar findings and provide evidence of this trickle-down effect in operation between WoB and executive levels across different time periods, for periods between 1999 and 2016 and with datasets ranging from 81 up to 1,500 listed firms (Bilimoria, 2006; Halrynjo and Blair-Loy, 2021; Matsa and Miller, 2011; Skaggs, Stainback and Duncan, 2012). In a more nuanced study (Ali, Grabarski and Konrad, 2021) find evidence of the trickle-down effect operating from women in TMT to women in lower management levels in female tilted industries (61-84% female) but is constrained in male tilted industries (16-39% female). They conclude this is because senior women in such industries are reluctant to help other women as it would serve to highlight their gender identity.

The trickle-down effect, however, is far from consistent although this may be because of the difference in the definition of 'executive levels'. For example, a large scale UK study over 20 years and covering over 2,200 firms offers support for a trickle-down effect and use a fairly liberal specification of executive levels, as does a study in Spain on the banking industry which also provide support for the trickle-down effect from WoB to managerial levels (which includes both middle and senior management) (Biswas et al., 2021; Delgado-Piña et al., 2020). A study evaluating the trickle-down effect to executive directors only, a fairly narrow definition of 'executive', finds no trickle-down effect (Bennouri, De Amicis and Falconieri, 2020). Finally, a large multi-country analysis of 43 countries (Terjesen and Singh, 2008) offers overall evidence of the trickle-down effect, however, find that the effect is moderated by social, political and economic contexts.

The trickle-down effect also is seen operating from women in top management to women in lower level management roles (Kunze and Miller, 2017; Kurtulus and Tomaskovic-Devey, 2012). It has also been seen to operate between organizations. (Beckman and Phillips, 2005) study found that law firms who served women led corporate clients were more likely to have more female partners and this was especially evident when the firm had a limited number of clients.

Interestingly, the initiatives and programs implemented in many countries to improve gender diversity may in fact have a moderating effect and can constrain the trickle-down effect. In Australia, companies have, since 2011, been required to report on diversity targets and their progress in their annual reports. While this was expected to bring visibility and accountability to listed companies, (Klettner, Clarke and Boersma, 2016) find little evidence that the proportion of women in senior executive levels had increased as a result of more WoB. Even though (Gould, Kulik and Sardeshmukh, 2018) found a trickle-down effect, it was weakened after the introduction of this reporting requirement corroborating a countervailing effect of regulation. Further, (Klettner, Clarke and Boersma, 2016) suggests that regulatory interventions may only be effective in short run and

primarily for those women making it to the board table, but it may be that voluntary targets are more effective in promoting the cultural change necessary to foster gender diversity more broadly. Others agree, commenting that voluntary programs of targets and reporting may be more effective in creating the cultural changes necessary for long term substantive change to be established (Terjesen and Sealy, 2016; Vinnicombe et al., 2015). However, while quotas can be very effective at creating diversity, numbers alone do not create inclusive environments (Sherbin and Rashid, 2017).

Implicit in these studies is that individual board members have similar levels of power and influence and can equally influence organizational decisions and outcomes. Further, there are no distinctions made between executive and non-executive directors who have very different roles and responsibilities. While the board collectively makes decisions, executives, notably the CEO, have individual levels of discretion and decision-making ability.

Two studies address this and surprisingly find that the trickle-down effect is almost entirely attributable to non-executive rather than executive directors (Biswas et al., 2021; Skaggs, Stainback and Duncan, 2012). (Corwin, Loncarich and Ridge, 2021) also address this oversight and argue that the influence of the CEO has been overlooked when examining the trickle-down effect especially on the top management team (TMT). The CEO has significant discretion on who is promoted, hired and fired on their executive committee and TMT. Their study reports that the trickle-down effect between female CEOs and the TMT is negative although female CEOs with longer tenures exhibit more power and influence on TMT appointments. (Bozhinov, Joecks and Scharfenkamp, 2021) also evaluate the differences in the level of power held by female board members and find that women supervisory board members with ownership power (i.e. elected by shareholders) are positively correlated with the presence of women on management boards.

## 2.7.2 Quotas and Trickle-Down

A practical difference between a mandatory quota and a voluntary target is that under a mandatory regime each company must meet the target (i.e. 40% in Norway), whereas under voluntary programs, the target is applied and measured in the aggregate (Terjesen and Sealy, 2016). For example, in the UK voluntary target under the Hampton Alexander Review was set at 33%. In the final year of the Hampton Alexander Review representation of WoB in the FTSE 100 reached 36.2% WoB notwithstanding the failure of 32 FTSE 100 companies to do so (Hampton Alexander Review, 2021).

Arguments for quotas include the business case argument which claims that improving the gender balance on boards will have the effect of improving the bottom line, and the social justice argument which proposes that they are needed to overcome discrimination or that they are a necessary to support the democratic functioning of organizations and society (Kirsch, 2018; Terjesen, Sealy and Singh, 2009). Still, there has been a lot of resistance to quotas from the business community, as well as from some of the women these quotas seek to benefit, with a number of conflicting views as to the legitimacy of quotas as a solution for gender inequities (Terjesen and Sealy, 2016). Nevertheless, these quota programs have had significant impacts on the gender composition of boards in those countries adopting quotas.

Quotas along with other interventions including comply or explain legislation and voluntary targets have been a top down approach towards the larger goal of improving gender diversity in organization more broadly (Branson, 2012). Mandatory quota programs have undoubtedly been effective in increasing the numbers of WoB and the increases in WoB have been higher and more even in mandatory regimes versus those jurisdictions following voluntary target and comply and explain regulations, but the impact on increases in the representation at the executive levels have been disappointing under both mandates (Bertrand et al., 2019; Halrynjo and Blair-Loy, 2021; Hampton Alexander Review, 2021).

Since Norway was the first country to install a mandatory quota in 2008, studies in Norway have been popular to examine their influence. Surprisingly though,

Norway, a country generally thought to be progressive in terms of gender equality with good social and family friendly policies, shows no evidence of a trickle-down effect to the top five earners (Bertrand et al., 2019) or to the executive committee (Halrynjo and Blair-Loy, 2021) leaving very little evidence of a trickle-down from female board members to executive levels in Norway. Encouragingly, two studies in Norway report that women on PLC boards are beginning to gain access to positions of power and influence such as Chair (Seierstad et al., 2021a; Wang and Kelan, 2013), Deputy Chair (SID) roles and CEO roles (Seierstad et al., 2021a) although the percentage of female CEOs remains under 10%.

Mandatory quota programs in Norway not only seem to have constrained trickle-down effect, there is also no evidence of a spill over effect to other organizations not subject to the quota programs (Seierstad et al., 2021a). Perhaps this is an unintended consequence of mandatory quota programs where quotas have only served the limited numbers of women appointed to corporate boards with little if any effect improving gender diversity more broadly.

In contrast to Norway, however, Italy, which displays a more gender conservative orientation in general, and who have also imposed gender quotas for boardroom representation has had different results. The gender quota law there has indeed resulted in a positive relationship between women directors and improved gender diversity among senior executives (Maida and Weber, 2020; De Vita and Magliocco, 2018). Notwithstanding a similar regulatory context, the inconsistency in results highlights the importance of also considering other contextual aspects such as national and social environments.

From a more subjective perspective, interviews with experienced female directors in Norway provide insight into how the quota regime has helped to expand the range of capital (social, cultural and economic) that is considered legitimate and valuable for leadership positions and has resulted in the appointment of women directors with unconventional backgrounds and experience (Seierstad et al., 2021b). Still, in Norway, it is not clear when and how a trickle-down effect in Norway can be activated.

### **2.7.3 Hiring, Promotion & Post Promotion Success**

A central function and responsibility of the board is the appointment of the CEO and given the increasing presence of WoB, it raises the question “why are there not more women CEOs?” Indeed, increasing the number of female CEOs would be one way of overcoming gendered organizational structures and to the extent that female CEOs can be mentors, advance other women for promotion or hiring and ensure the adoption of female friendly programs and policies, there should be a positive effect on gender balance throughout the organization (You, 2021). Yet the presence of a female CEO remains a rarity globally. In 2021, the average for women CEOs in Europe was just 6.7%, 5.7% in the United States and 6.1% in the UK (Deloitte, 2022).

Theoretical perspectives on the appointment process for senior executives normally rely on social identity, the similarity-attraction paradigm and in and out groups. Social identity theory theorizes that an individual’s identity is based on their memberships in various social groups (i.e. gender, race, social class etc.), and in identifying with these groups we set up an “us” versus “them” mentality, preferring “us” groups (in-groups) and biasing “them” groups (out-group). Similarity attraction paradigm explains that people like and are attracted to people who are like them. Taken together these explain why male dominated groups will tend to prefer candidates who are just like them and therefore increasing the number of WoB can offer an important counterbalance, especially when their proportions move beyond token and minority status.

Studies analyzing CEO transitions emphasize the importance of organizational diversity at the decision-making level in order to mitigate this homosocial reproduction (Kanter, 1977b). There were a number of studies all finding that as the number of WoB increased the likelihood of appointing a female CEO also increased (Cook and Glass, 2014b; Elsaid and Ursel, 2011; Frye and Pham, 2018; Halrynjo and Blair-Loy, 2021; Matsa and Miller, 2011; Wang and Kelan, 2013; You, 2021). Further, board diversity significantly and positively influenced female CEO post promotion success and tenure (Cook and Glass, 2014b, 2015a). (Gupta and Raman, 2014) also found the same relationship but argue

that this is because women directors are candidates for the CEO position rather than being in a position to influence the candidate selection.

However, it is not always a function of the numbers of WoB. For example, (Cook and Glass, 2015a) study found some evidence that the presence of interlinked directors was more important for the appointment of a women CEO while the number of women directors were more important for her post promotion success indicating that mechanisms for appointment may be different from those necessary for female CEOs tenure and success.

Conversely, a US study looking at CEO succession events between 1997 and 2017 find that the likelihood of appointing a female CEO is significantly higher when there is a critical mass of female directors. Further, they find it is enhanced when the organization displays a more female friendly culture which may be indicative of a trickle-up or generative effect (You, 2021).

The presence and numbers of women board members can also influence the dynamics between a (male) Chair and a female CEO. (Oliver et al., 2018) found that board chairs on boards with fewer women may be influenced by gender stereotypes by taking a more collaborative approach with their female CEOs versus a more typical control orientation with male CEOs. This inclination, however, was reduced when there were more women on the board as a higher percentage of female board members normalizes their presence, reduces the salience of gender and mitigates the triggering stereotypes. While this study does not comment on whether a collaborative orientation benefits the relationship between a female CEO and the (male) Chair in terms of firm performance and what this may mean for gender diversity more broadly, it does serve to remind us that sexism continues to operate, particularly in unbalanced gender teams.

Even though there is evidence that the presence of WoB increases the likelihood of the appointment of a female CEO, these probabilistic models appear to offer little more than false hope given the presence of females CEOs remains a rarity (Deloitte, 2022).

## 2.7.4 Gender Wage Gaps

The gender wage gap is an important metric in the measurement of gender bias and gender board diversity may be an important factor in reducing these wage gaps which are especially prevalent in the upper quartiles (HMRC, 2022). A US study found that women executive salaries are 5% lower than their male counterparts (Elkinawy and Stater, 2011), while another US study reported significantly larger gaps in executive salaries (Carter, Franco and Gine, 2017) as does a UK study on executive director salaries (Geiler and Renneboog, 2015). In all three studies, gaps are reduced with more gender balanced boards. This relationship generally holds true globally. A 43 country study reports that where there are more women on corporate boards, gender wage gaps are more likely to be smaller (Terjesen and Singh, 2008). Similarly, both (Matsa and Miller, 2011) and (Carter, Franco and Gine, 2017) studies suggest that gender wage gaps for female executives decrease as the number of female board members increases. In a further example, companies with female leaders exhibit lower gender wage gaps when hiring displaced workers than their male counterparts. This suggests that companies with female leadership exhibit practices consistent with a more equitable and fair culture (Tate and Yang, 2015).

A notable exception is Norway. While Norway is generally considered to be a progressive society in terms of gender equality (family friendly policies, childcare and good healthcare), a significant gender wage gap remains. (Bertrand et al., 2019) see little evidence of Norway's more gender balanced boards improve wage gaps. In fact, they find wage gaps in the 90<sup>th</sup> percentile has expanded since 1995.

Compensation committees play a central role in determining and monitoring the compensation plans of the firm's executive team. A study of US public companies provides evidence of smaller gender wage gaps when there are more women on the compensation committee, although they present a quite optimistic model that projects that female executive wage gaps are almost eliminated when there are at least two women on the compensation committee (Shin, 2012). (Cook, Ingersoll and Glass, 2018) perform a similar study and while they cannot

corroborate Shin's results, they instead find that women need to chair compensation committee in order to have any meaningful influence on executive gender compensation gaps. Deviating from token theory, this and a number of other studies have found that influence or power is more important than numerical representation when it comes having the ability to influence board (or committee) decisions (Cook, Ingersoll and Glass, 2018; Cook and Glass, 2015a, 2018; Glass and Cook, 2018).

A meta study finds that higher representation female executives are responsible for mitigating the gender variance between compensation and performance evaluations (Joshi, Son and Roh, 2015). Female CEO's and female executives are associated with more women in executive levels and lower gender wage gaps in the upper end of the wage distribution in Italy (Flabbi et al., 2019). Furthermore, the presence of a women CEO is associated with more female executives. (Elkinawy and Stater, 2011) use data from S&P 1500 companies over the period 1996 - 2004 find that male dominated boards suppress the numbers of female executives and their salaries as well, while female CEOs increase the numbers of non-executive women and the likelihood of have any female executives at all.

A similar pattern of influence is found between women managers and subordinates. Firms with more women in management have lower gender wage gaps (Cardoso and Winter-Ebmer, 2010; Cohen and Huffman, 2007) and women in more senior positions have larger effects (Cohen and Huffman, 2007).

### **2.7.5 Advocacy and Influence**

One way that WoB can affect gender equity in their organizations is to advocate for other women (i.e., supporting gender equity policies or promoting and supporting women candidates for recruitment, hiring and promotion and in their post promotion success). Theories of social identity offer theoretical support for why women directors would support gender equality in organizations. Social identity theory describes how group membership is incorporated into our self-concept and this informs how we view other group members (in-groups) as well as non-members (out-groups). This give rise to in-group favouritism which is a behavioural pattern of demonstrating a preference of in-group members over out-

group members (Tajfel and Turner, 1982). Based on this reasoning, women should then prefer to use their power and influence as directors to support gender equality and advocate for other women. Research shows though that this is not always the case. (Duguid, 2011; Duguid, Loyd and Tolbert, 2012) argue that social identity theory does not consider how behaviour is conditioned by the individual members need to be considered an important and valued member of the group. They propose a new construct, “value threat”, a mechanism that shapes and influences an individual’s propensity to advocate or support those who are demographically similar. Value threat can influence the responses of numeric minorities in high status groups, which is particularly relevant for corporate boards, whose group status is prestigious and where women are usually numeric minorities. When activated, female board members may not support or advocate for other women out of concern for how other group members would perceive them. If a candidate has fewer or different qualifications, there may be a concern of confirming a negative stereotype (i.e. women are not suited for senior leadership roles) or if a candidate is highly experienced, there may be a concern that the newcomer will overshadow their position in the group. Finally, they may not wish to be seen to exhibiting a positive bias by advocating for a similar other.

Often this type of behaviour is referred to as the Queen Bee Syndrome, used to describe women who don’t support other women. However, this label is in fact a sexist label that works to maintain the gendered status quo, assigning the responsibility of advancing gender equality solely on other women without consideration of the gendered organizational structures, processes and policies in play (Mavin, 2008). Indeed, the queen bee phenomenon may more of a response to these gendered structures, stereotypes and the discrimination women leaders experience at work (Derks, Van Laar and Ellemers, 2016).

Numeric representation can also affect both participation and influence in group settings. This can have important consequences for deliberation and decision making on corporate boards. (Karpowitz, Mendelberg and Shaker, 2012) conducted experiments to better understand how a group’s gender composition

is associated with various decision rules in either exacerbating or reducing inequalities in decision making process. Under the majority rule, they find that it is necessary to have many women in order to eliminate the unequal influence of men. Since corporate boards typically operate under majority rule, we can extrapolate that it may be necessary for women board members to reach a critical mass in order to fully participate, influence and have impact on the boards they serve.

Still, numeric representation may not be enough on its own. Whether or not women advocate for other women may also be conditioned by the board environment and Board chairs are seen as critical in creating a supportive organizational environment and in disrupting the invisible gendered dynamics that continue to operate (Kirsch, 2022; Zajiji, Wilson-Prangle and Ndletyana, 2021). This is especially important for less experienced female directors. While experienced female directors would still take “equity related actions” whether they deemed the board or Chair to be supportive of gender equity discussions and proposals, less experienced female directors would only do so if they felt supported. Interestingly, the presence of critical mass of women directors did not determine whether a female director would take engage in proposal for gender diversity (Kirsch, 2022).

A number of qualitative studies provide interesting insights from women board members in terms of their board experiences and in particular their ability to advocate and influence gender diversity issues. Women directors discussed the disadvantages that came with token or minority status and the resulting increasing salience around gender such that they were seen as a female rather than an individual and raising the concern of being seen as a single issue member. Token status meant that it was often difficult to gain credibility and respect. “I was the only woman in a room of guys. I’m not shy, but trying to get your voice heard around the table is not easy.” Both men and women directors felt increasing the numbers of female directors made a difference. One female director explains “The stage with one woman is the invisibility phase. The stage

with two women is the conspiracy phase.... Three women are mainstream” (Konrad, Kramer and Erkut, 2008).

### **2.7.6 Workplace Integration**

Occupational segregation by gender refers to the unequal distribution of men and women across different occupational categories. This segregation occurs both horizontally and vertically. Horizontal gender segregation refers to the under (over) representation of women and men in professions and/or industry sectors. Vertical segregation refers to the clustering of men at higher levels of organizational hierarchies while women tend to be clustered around lower and less powerful levels. Interestingly, vertical clustering occurs in both male and female dominated industries. For example, even in organizations that are typically dominated with female employees and/or serve female consumer groups (i.e. nursing or beauty), senior executives tend to be men.

Previous research suggests that women in leadership positions should have a moderating effect on gender segregation, weaken stereotypes and reduce gender linked inequalities. A number of theories have been offered to explain how the presence of women in leadership positions can advance occupational integration. Kanter's seminal work on homosocial reproduction identified that men prefer to hire other men into their work groups and to the extent these work groups (i.e. senior leadership groups) remain dominated by men, the status quo is likely to continue. It follows then, that if the number of women in these decision-making roles were increased, their preference to hire others similar to them could provide a counterbalancing force and help to reduce gender inequality. Numerical minority is, however, a mitigating factor. Once again, tokenism explains that being a small minority or a token will curtail their ability to be taken seriously and influence organizational policies and decisions (Kanter, 1977b).

Other empirical studies show that women's representation on corporate boards and in management positions are associated with improved gender integration in the workplace (Biswas, Roberts and Stainback, 2021; Skaggs, Stainback and

Duncan, 2012; Stainback, Kleiner and Skaggs, 2016). (Stainback, Kleiner and Skaggs, 2016) extend (Cohen and Huffman, 2007) framework on gender desegregation to gender wage gaps. They distinguish between agents of change (working to reduce workplace inequality) or cogs in the wheel (maintaining the status quo) and find that women as directors, executives and managers are all associated with reducing non-managerial gender segregation at both the firm and establishment levels. They characterize these women as change agents and rely on theoretical explanations to articulate how and why these women influence gender desegregation. At the firm level, female corporate directors and executives may be influential and use their power to encourage the adoption of gender diversity policies. At the establishment, women managers use their discretion on employment decisions and can also provide support and motivation to women they work with.

Having more women in higher level management positions has also been associated with less gender segregation at lower levels (Huffman et al., 2010; Stainback and Kwon, 2012) and this correlation is more prevalent in large and growing companies (Stainback and Kwon, 2012), although this influence may be short lived as it appears to weaken over time (Huffman et al., 2010). National and environmental context also has important implications (Terjesen and Singh, 2008). For example, for companies operating in a less egalitarian national context (i.e. Korea), women in positions of power may be in a position to facilitate reductions in sex segregation but women in lower supervisory levels may serve to reinforce inequity regimes (Stainback and Kwon, 2012).

Research demonstrating that women in senior levels have more influence provides important support for continuing to develop a critical mass of WoB and in executive positions as a key part of social policies as they play an important role in creating more visibility for women's issues which can lead to the adoption of more female friendly policies, generate more inclusive cultures and can support sex desegregation (Kowalewska, 2020).

### **2.7.7 Employee/Employer Relationship**

While boards are not directly involved in hiring or managing employees beyond the CEO (and sometimes other EDs), regulators and investors increasingly expect the board to provide oversight for talent management and succession plans well below the executive levels. Board input and decisions affecting the introduction and adoption of various employee policies and programs can have direct effects on the firm's ability to attract and retain high calibre employees and improve employee satisfaction. Scholars have found that gender diverse boards are more likely to have improved employee, employer relationships (Li et al., 2018) and are more likely to adopt more progressive management policies that in turn leads to higher levels of employee satisfaction (Creek, Kuhn and Sahaym, 2019). However, (Glass and Cook, 2018) report that in female led firms, female representation the board did not impact on diversity practices. Instead, it was women CEO's with influential women board members that were more successful in driving diversity agendas (Glass and Cook, 2018). Alternatively, (Furlotti et al., 2019) found that it was the presence of a female Chair, not a female CEO, that was associated with diversity commitments, initiatives and policies.

(Abebe and Dadanlar, 2021) used discrimination lawsuits as a way to evaluate employee satisfaction and find that the joint presence of a critical mass of female and minority directors reduces the likelihood of large-scale discrimination lawsuits and this was strengthened with the presence of a female CEO. The presence of a critical mass of women directors reduced the likelihood of large-scale lawsuits by 17% and with the presence of a female CEO reduced the likelihood of a lawsuit by 39%.

### **2.7.8 Organizational Reputation & Legitimacy**

To external audiences, board diversity, or lack thereof, may send broader and more subtle messages to outside stakeholder groups, such as consumers and investors and impact the firm's reputation in the marketplace. Here, scholars have argued that diversity management is an important aspect of developing a

diversity identity and this in turn will shape its legitimacy and its public image. (Cole and Salimath, 2013) theoretical model suggests that there is an optimal level of diversity management that is required in order to be perceived as credible and when done well can influence its image in a positive way (Rhode and Packel, 2014). They caution, however, that it must be meaningful and extend beyond tokenism. Aligning words (statements, policies) with actions is necessary in order to be perceived as credible. (Windscheid et al., 2016) also highlight the importance of behavioural integrity. They conducted a field experiment that measured the behavioural integrity of pro-gender diversity statements against the gender composition of boards. The results clearly indicated that one woman on the board was not enough for an organization to have perceived behavioural integrity and they extrapolate this incongruity to have a negative effect on employer attractiveness. The presence of WoB can help legitimize organizational diversity commitments and convey to prospective female employees that career progression is possible. This is especially so for the presence of executive women (Terjesen, Sealy and Singh, 2009).

These results indicate the important role that a gender diverse board can have in meaningfully effecting employee perceptions and satisfaction levels as well as enhancing the firm's reputation with ultimate bottom line impacts.

### **2.7.9 Role Models**

While there has been a lot of research on role models and many have theorized that senior role models are important for women's career success, there has been very little empirical work on the importance of role models at senior levels (Sealy and Singh, 2010). Different than mentors, who perform a hands-on role providing advice and guidance in the context of personal interaction, role models are more aspirational leaders. Their presence can demonstrate that the organization values gender diversity and is supportive of advancing women to senior roles, role model various skills, attributes and behaviours that are associated with leadership and success in achieving executive level jobs (Branson, 2012; Kunze and Miller, 2017; Terjesen, Sealy and Singh, 2009) and enhance the motivation

of female employees who working for companies with female leadership (Périlleux and Szafarz, 2021). The recent increases in the numbers of WoB offers an expanded source of role models. Indeed, 66% of senior women surveyed indicated that they felt positive about their careers when there were women directors and this rose to 69% when there were women executive directors (Terjesen, Sealy and Singh, 2010).

Identity is an important aspect of how an individual sees themselves, particularly in an organizational context. Research indicates that role models are used in identity formation and that unbalanced gender teams at the senior management level limit the ability for senior women to identify appropriate role models (Sealy and Singh, 2010).

### **2.7.10 Critical Mass**

There has been a great deal of research theorizing about the critical mass effect (Kanter, 1977a, 1977b, 1987), however, it was not until the numbers of WoB grew into a significant minority status were scholars able to empirically test the effect of a critical mass of WoB on various firm outcomes. (Joecks, Pull and Vetter, 2013; Konrad, Kramer and Erkut, 2008; Torchia, Calabrò and Huse, 2011). Critical mass theory posits that when group members are tokens or have minority status, their contributions tend to be constrained or overlooked by the majority. Not until their proportions approach what Kanter called a tilted group, where membership of the minority ranges between 20-40% (Kanter, 1977a) will their participation be acknowledged and considered. At these levels, membership is normalized and their participation and influence increases. As discussed above, a number of studies confirm that a critical mass of female directors enhances and activates improvements in the likelihood of appointing a female CEO (You, 2021), their post promotion success (Cook and Glass, 2015a), and improvements in workplace integration (Biswas et al., 2021; Biswas, Roberts and Stainback, 2021), employee relationships (Abebe and Dadanlar, 2021) and organizational reputation (Windscheid et al., 2016).

Others argue that developing a critical mass of women in senior leadership roles, both on the board in and in executive management, can facilitate the adoption of female friendly policies and practices and more inclusive cultures (Kowalewska, 2020). (Konrad, Kramer and Erkut, 2008) interviews with female directors confirm how in the absence of a critical mass of female directors, it was more difficult to have their contribution taken seriously and it is only when a critical mass is realized that their presence becomes normalized and their opinions and their ability to contribute in a meaningful way to boardroom deliberations and decisions is fulfilled.

Although critical mass is important, barriers still exist and it isn't always enough on its own to disrupt gendered dynamics (Zajji, Wilson-Prangle and Ndletyana, 2021). Influence from power and status cannot be underestimated (Beckman and Phillips, 2005; Cook, Ingersoll and Glass, 2018; Cook and Glass, 2015a; Furlotti et al., 2019; Glass and Cook, 2018; Tate and Yang, 2015) and women in positions of power can be viewed as a reflection of an organizations commitment to gender diversity and real substantive change (Klettner, Clarke and Boersma, 2016; Kowalewska, 2020).

## **2.8 Discussion and Conclusion**

While research on the gender composition of corporate boards has been prolific, this literature review was designed to target articles that examine what increases in the gender composition of boards has done for women's access and successful navigation through the corporate pipeline to reach senior levels of organizations. Overall, the limited number of articles confirms the under-researched aspect of this stream of research.

Most of the studies were quantitative studies using regression analysis to establish correlations between the presence of WoB and a number of gender diversity outcomes and many have used lagged variables to facilitate causal claims. These studies provide data driven evidence that the presence of WoB trickles down to improve the gender balance in hierarchical levels below the

board, is positively associated with lower gender wage gaps, lower sex segregation, improved employee employer relationships and enhances organizational legitimacy and reputation. Further, while the number of female CEOs remains low, a number of studies show that as the number of women directors increases, the likelihood of appointing a female CEO also increases.

Most of these studies rely on the numbers thesis which is informed by critical mass theory. Developing a critical mass of WoB is based on the assumption that increasing the numbers of WoB will ensure that women directors will have a meaningful say in boards decisions and organizational outcomes. The development of a critical mass of WoB has been facilitated by the introduction of quota and target programs. As a result of both mandatory quota mandates and voluntary target initiatives, the representation of WoB has increased significantly in a number of jurisdictions. Importantly, this has afforded researchers the opportunity to empirically test what developing a critical mass of women directors has meant for a gender diversity outcomes. Surprisingly though, some studies are finding that the presence of a critical mass of women directors is not always sufficient for their influence to be realized. It would seem that meaningful participation is not necessarily a function of numeric representation as critical mass theory suggests.

An emerging stream of research has considered the construct of power, an overlooked aspect of Kanter 's seminal work. These studies have examined the influence of women directors with power and status on gender diversity outcomes and have found that having influential women directors or women in positions of power (senior board roles) may be an equally or perhaps a more important aspect. Further, distinctions between non-executive and executive directors are rare which is surprising considering the significant differences in terms of the level of discretion and decision-making ability between executive directors and non-executives directors. While executive directors are subject to the consensus decision making process for board matters, they have significant authority and discretion in making organizational decisions, especially the CEO. Another implicit assumption in these studies is that female directors will represent

women's interests, actively advocate for other women and advance initiatives to improve gender equity, which is not always evident. Interviews with women directors confirm that when there are more women on the board, things become easier as their presence is normalized and their input taken seriously. However, when women directors are inexperienced or their minority status increases gender salience, they may be reluctant to take such equity related actions.

In summary, developing a critical mass of WoB has had some important impacts on improving opportunities for women to advance their careers and succeed to executive roles. However, this critical mass was developed as a result of external pressures (quotas and target programs) and whether or not a critical mass of WoB is representative of an organization that values and embraces gender diversity, or whether female directors remain tokens notwithstanding the numeric representation is an open question. After all, if women directors do not progress into more senior board roles like their male colleagues, it is not clear that the diversity claims they make are sincere. Taken together, an approach that focuses on numbers only may be too simplistic. There are, for example, signs that the ability for women directors to influence boards discussions, decisions and outcomes may depend on the level of power or status they hold.

This suggests that it would be important to also incorporate the power and status of women directors when examining their influence. For example, do gender diversity outcomes improve when there is both a critical mass of female directors a female chair or CEO? What other board configurations matter when it comes to improving gender balance in executive levels? Taking a configurational approach is highly suitable for boards who make decisions as a group so examining how boards are configured and where female directors situated in terms of power and status will bring a new perspective to both practitioners and academics interested in gender equality.

This leads to my final research questions.

1. Does the presence of WoB activate the trickle-down effect?
2. What board gender configurations (in terms of roles held by female directors) are associated with the trickle-down effect?

3. What mechanisms underpin the trickle-down effect?

### **3 THEORETICAL PERSPECTIVES**

This research is interested in examining the trickle-down effect from WoB to women in levels below the board. While there is research that provides empirical evidence for the trickle-down effect, its effect is far from uniform. Further, there have been a number of studies indicating that the roles that women directors and the power and status associated with them may be more important in terms of influencing organizational outcomes. For researchers interested in the relationship between WoB and its influence on gender diversity below the board, the foregoing suggests that simply increasing the numbers of WoB may not be enough on its own to influence gender diversity outcomes and we need to extend our theoretical frameworks to include other board factors that may be important in influencing better gender balance below the board. This chapter will provide a rationale and a theoretical framework that underpins my empirical study.

#### **3.1 Critical Mass – A Dominant Theme**

The presence of a critical mass of women board members has been a dominant theoretical perspective in the existing literature. Kanter's seminal ethnographic study of an American manufacturing company in the 1970's highlighted how the distribution of power affected the self-identity and careers of employees at all levels of the organization. She also outlined a typology based on the proportional representation of group members to explain how proportional representation affects work experiences and career progression. In it she identifies four groups: uniform groups, with only one 'kind' of person, balanced groups (with 60:40 ratios), titled groups (with 65:35 ratios) and skewed groups (with 85:15 ratios) (Kanter, 1977a). Proportional representation and specifically, two of the groups that Kanter described, has led to, what has been, the dominant theoretical lenses of tokenism and critical mass for WoB researchers. Skewed groups, where the minority faction represents less than 15% and are tokens or solos with very little ability to affect the group culture, and tilted groups where the minority represents between 15% and 40%, a level at which alliances can form which can then begin to influence the culture. It is this aspect of Kanter's work that has given rise to the number's thesis so prominent in the existing research. While Kanter's work is central to the concept of critical mass, its definition and application, as it relates to

gender diversity in the workplace, was taken up by other scholars who established specific proportions to represent a transition from minority status to critical mass. For example (Ely, 1995) takes the lower end of Kanter's titled group ratio at 15%, (Bilimoria, 2006) uses 25% and (Konrad, Kramer and Erkut, 2008; Schwartz-Ziv, 2017; Torchia, Calabrò and Huse, 2011) use a minimum of three to represent a critical mass of WoB. As a result, a number of 3 or 30% has generally been adopted as the level at which the benefits of critical mass materialize.

The growing presence of WoB in a number of jurisdictions has allowed researchers to test this theory, however, results have been equivocal. For example, Norway, the first country to take a strong stance for gender equity by installing mandatory quotas for WoB, has seen virtually no benefit for women in levels below the board (Bertrand et al., 2019), while other jurisdictions with quotas, like Spain and Italy, find some positive effects from WoB on gender diversity in senior management (Delgado-Piña et al., 2020; De Vita and Magliocco, 2018).

In jurisdictions taking a softer approach, using targets or comply or explain programs, research has generally supported the influence of a critical mass of WoB on a number of gender diversity outcomes, including improvements in the likelihood of appointing a female CEO (You, 2021) and their post promotion success (Cook and Glass, 2015), improvements in workplace integration (Biswas et al., 2021; Biswas, Roberts and Stainback, 2021), better employee relationships (Abebe and Dadanlar, 2021) and organizational reputation (Windscheid et al., 2016). It is worth noting here, however, that while there are a number of studies confirming the efficacy of a critical mass on various gender diversity outcomes, in jurisdictions where mandatory quota programs have not been adopted, the number of boards with a critical mass of WoB is generally quite low and this is especially true for longitudinal studies, which makes it difficult to fully evaluate the impact of a critical mass of women directors.

Furthermore, the few qualitative studies interviewing both women in leadership roles and women in the pipeline generally confirm the importance of having a critical mass. Interviews with female directors have reported that it was difficult to overcome the negative effects of token status and have their voices heard in male dominated boards so increasing numbers was seen as critical to overcome the influence of gender stereotypes and legitimize their contributions (Konrad, Kramer and Erkut, 2008). For

women in the pipeline, having women in senior roles was seen as essential in shifting the culture to a more equitable and supportive environment for women and their career progression (Chesterman and Ross-Smith, 2006). Even in Norway, where there is little evidence of a trickle-down effect, the quota program has led to important cultural changes. The development of a critical mass of WoB has had an impact on shifting the expectation that candidates for corporate boards need to have a conventional executive background to one that recognizes that experience and capital accumulated in less traditional positions are equally valuable (Seierstad et al., 2021b).

In summary, critical mass theory has so far provided an incomplete explanation for the trickle-down effect. A review of the literature reveals that while extant research has mostly relied on critical mass theory as its theoretical lens, an emerging stream of research is beginning to consider other theoretical frameworks which include looking at the power and status of female directors and whether they influence various gender diversity outcomes. This overlooked aspect of WoB research may be important in clarifying the inconsistent results provided by critical mass theory. Further, rather than abandoning critical mass theory, I propose to develop a theoretical framework which incorporates it along with the constructs of power and status.

### **3.2 Moving Beyond Critical Mass**

Increasingly, more recent studies are moving beyond the numbers perspective, examining the influence of women in senior board roles. Examples include (Palvia, Vähämaa and Vähämaa, 2014) finding that the presence of female Chairs and CEOs at US banks reduced the likelihood of bank failure during the financial crisis, (Furlotti et al., 2019) finding that the presence of a female Chair positively influences the adoption and implementation of gender diversity policies and (Cook, Ingersoll and Glass, 2018) finding that female committee chairs, not the numbers of women on compensation committees, were able to influence gender wage gaps in executive compensation. Women board members with higher status were also found to be more influential than just the sheer numbers of women directors. For example, the presence of high status women boards members, measured by the number of board interlinks, was found to be a critical factor in the appointment of female CEOs (Cook and Glass, 2015a).

Moreover, quantitative studies reporting interaction effects suggest that evaluating the effect of a combination of variables on an outcome can provide better explanatory power. For example, (Cook and Glass, 2015a) looked at the effect of a female CEO, the percentage of women board member and the presence of influential women board members on firm performance. None of the variables were a significant predictor on their own, but the interaction of a female CEO and a higher proportion of female board members had a statistically significant relationship on firm performance.

As discussed, the numbers thesis and developing a critical mass of WoB has dominated regulatory approaches as well as academic research on the gender composition of boards, and as outlined above, has had inconsistent results. Perhaps a better understanding can be gained by considering in what circumstances female board members can influence decisions and outcomes. We know that persistent stereotypes and gendered status dynamics mean that women often do not have the same influence that men do (Ridgeway, 2001; Sidhu et al., 2021; Weck et al., 2021) and we have seen some evidence that women in senior board roles and female directors with higher status have more power and influence on various firm outcomes. This would suggest that research focusing on numbers only fails to consider the role that power dynamics may play and that a critical mass of WoB may only be a supporting role in enabling better gender balance in executive levels.

Interestingly, several management scholars have also suggested that research on corporate governance and WoB and has largely ignored analyzing board power dynamics to its detriment. Robin Ely, over two decades ago, suggested that the influence of women in powerful positions is more important than the numbers (Ely, 1995). (Hambrick, Werder and Zajac, 2008) observed that most research treats the board as a democratic decision-making body without any appreciation for the differences in influence from individual directors and that this failure to consider these power differentials has resulted in unremarkable insights. Others have noted that both corporate governance research (Hambrick, Werder and Zajac, 2008) and the workforce diversity literature (DiTomaso, Post and Parks-Yancy, 2007) has given little consideration to issues of power and status differences on boards and in groups.

Research in other domains like politics have also started to contest both the concept and importance of a critical mass of women in politics in influencing political processes

and gender based outcomes (Childs and Krook, 2008; Sandra Grey, 2006). They also suggest that researchers have neglected to consider power dynamics and how they might influence the political agenda. For example, (Sandra Grey, 2006) test a joint effects model using the numbers of women in the legislature, their roles and how receptive the environment is to better explain the relationship between female politicians and gender diversity outcomes.

Taken together, the summary above suggests that power has been an overlooked aspect when analyzing the effect of the gender composition of corporate boards on both decision-making processes and board outcomes. In order to consider the constructs of power and status and how power dynamics may play out on a corporate boards, I first looked to the corporate governance literature to provide a brief summary on the role and structure of the boards.

### **3.3 Corporate Governance – The Role and Power of the Board**

#### **3.3.1 The Role of the Board**

A central feature of publicly traded companies is the separation of ownership and control. Most large enterprises in Britain are publicly quoted, with a widely dispersed shareholder base and run by professional managers. This separation of ownership and control between owners (shareholders) and managers (the board) is a central feature upon which the UK corporate governance system is based with the board of directors acting as its primary governance mechanism (Fama and Jensen, 1983).

A board's primary function is to safeguard shareholder interests while ensuring the prosperity and sustainability of the organization. The safeguarding of shareholder interests is generally referred to as their 'control role' and represents the boards legal authority and fiduciary duty to supervise and control management, with a focus on ensuring that management discretion is monitored and aligned with shareholder interests. Secondly, their 'service role' refers to director's contributions to the strategic affairs of the organizations by providing advice and counsel to management and by facilitating access to external resources and information.

### **3.3.2 Board Power**

To understand the power that the board has in organizational decision making and outcomes it is necessary to consider its decision-making process. Shareholders retain some decision-making authority over issues like board membership, appointments of auditors and issuance of stock, but effectively all management and control functions are delegated to the board of directors. The board then delegates most decision management functions to the company's executives, led by the CEO, who further delegates decision making authority to individual role holders through the organization. This delegated and distributed decision-making process is a key feature of most organizations and is a defining feature of organizational hierarchy.

At the very top of the organizational hierarchy is the board of directors, who structurally have ultimate decision-making ability, however, unlike the authoritative decision-making model at the establishment level, board decision making is based on consensus. By law, a board operates collectively, where decisions are made by agreement and no one director can act alone (Bainbridge, 2019).

Given this interdependent nature of board decision making, the ability of board members to influence board processes, other board members and ultimately decisions becomes central. Organizational influence then, at the board level, is based on both having the power and authority to make decisions as well as the ability to influence others on the board when decisions are being made.

Further, board structures differ from jurisdiction to jurisdiction and can also impact board dynamics and processes. The most popular structure is a one tier or unitary board structure, however, a two-tier or dual board structure (having management and a supervisory board) is widely used, especially in Europe. In one tier boards, directors include both executive and non-executive directors and the CEO almost always sits on the board. Two tier boards, on the other hand, consist of two separate boards. The supervisory board is normally elected by the shareholders and its members are independent of the company's management, although some supervisory boards provide for employee representation. The management board consists solely of the company's executive management and is appointed by the supervisory board.

There are many differences and strengths and weakness between unitary and dualistic board structures, a discussion of which is well outside the scope of this research. Instead, I focus on the differences that are likely to affect board dynamics and the decision-making processes.

The primary difference between a unitary board and a dual board structure is that in a single board structure both executives and non-executive sit on the board, whereas in a dual board structure non-executives (supervisors) and executives (management) sit on separate boards. The dual board structure provides for a clear separation between supervisory and management functions. A unitary board structure, on the other hand, somewhat conflates the supervision and management function because the CEO is a participating member of the assembly whose primary function is to monitor and supervise him(her). This has implications for board decision making which I discuss in greater detail below.

### **3.4 The Power and Status of Directors**

#### **3.4.1 Power**

The classic definition of power comes from the work of (French and Raven, 1959). Power is characterized as the potential to influence, and power may come from a number of sources of power. They include; control over the allocation of organizational rewards, the ability to impose consequences for non-compliance, the power associated with having a necessary or respected expertise, having asymmetric control over information, having legitimacy or being respected or admired. Status, on the other hand, is the social power that is conferred by other group members on the basis of competence, legitimacy or respect (Fiske, 2010; Magee and Galinsky, 2008).

Definitions and conceptualizations of power, power sources and power dynamics have evolved significantly since 1959. For example, (Gareth Morgan, 2016) provides a more nuanced view of power, offering fourteen sources of power beyond structural and social sources to also include interpersonal and symbolic power sources. Importantly, this refinement of the definition of organizational power can help to explain how organizational members can avail themselves of various sources of power to influence the organization notwithstanding and in spite of their place in the

organizational hierarchy. However, given that structural power and status are two key features of organizational hierarchies, I will focus on these two aspects of power in developing my theoretical framework.

Structural power is control over organizational rewards and punishments and is a consequence of the authority and decision-making ability that gets distributed to various role holders down through the organization. Of course, power and status are often interrelated, where power can lead to status and status can lead to power, they are separated here for discussion purposes. In summary then, I characterize organizational influence as either influence from (structural) power or influence from status. This next section discusses the implications for structural power and status in the context of corporate boards.

### **3.4.1.1 Structural Power**

Structural power is associated with an actor's position in the organization, their degree of control over resources and their level of authority in organizational decision-making. Structural power, therefore, tends to be associated with formal organizational hierarchies where the ranking of group members is made clear with organization charts, reporting structures and job titles.

As noted, collectively boards have the structural power from the relative position in the organizational hierarchy. However, while the board collectively has formal structural power, individuals on the board do not (Vandewaerde et al., 2011). This suggests that the way power and influence shapes power dynamics and decisions on the board will be distinct from the way that power and influence operates at the firm level. Whereas individual employees in the firm have explicit authority, board members must operate by consensus. Further, this decision-making model implies that each director has equal say and influence in deliberations and decisions, however, regulators and academic researchers have long recognized that the power and influence of individual directors is uneven. There are a number of board positions that have been shown to have more power and influence. They include the CEO, the Board Chair, committee chairs and Senior Independent Directors (SIDs).

The power imbalance between executive directors and non-executive directors has been well established. Executives can accumulate power and influence from a number of sources. As discussed, the CEO has been delegated most decision-making authority and control over organizational resources indicating a significant level of structural power. In addition, the board relies on the CEO to provide the information on which it makes important strategic and policy decisions. Indeed (Mace, 1972) maintained, based on his research and his personal experience of serving on corporate boards, that the power and control of the organization clearly lies with the CEO.

Most boards in the 1960's and 1970's were what (Pettigrew and McNulty, 1995) call minimalist boards, that is, boards dominated by a powerful CEO who could often constrain the contributions of independent directors. This power imbalance was intensified due to the fact that many firms followed a dual CEO-chair model, (where the CEO is also the Board Chair) which left too much power in the hands of the CEO and effectively reduced the influence of other directors. As a result, most research on board power has focused on the relative power between non-executives and executives and in particular, the separation of the roles of the CEO and Chair.

Regulators have had a significant impact on changing these board power dynamics, especially in the last two decades as they reacted to a number of crises and external pressures. For example, the dysfunction and ineffectiveness brought to light by a number of corporate failures, most notably in the US with Enron and WorldCom in 2001/2002 and later with the global financial crisis in 2007, has prompted regulators to formally address the inherent power imbalance between executive and non-executives. Since then, a number of corporate governance reforms have attempted to re-balance power between executives and non-executives by continually increasing the scope and responsibility of non-executive directors and raising the profile and mandate of the Board Chair. In the UK, the 2018 Governance Code very clearly assigns a significant responsibility to the Chair for both running the board and ensuring the success of the company. With respect to division of responsibilities the code states "The chair leads the board and is responsible for its overall effectiveness in directing the company." (Financial Reporting Council, 2018). The Chair, as leader of the board, also plays a crucial in setting the culture of the board (Pettigrew and McNulty, 1995)

and in ensuring the engagement and involvement of other directors (Bezemer, Nicholson and Pugliese, 2018).

The role and responsibility of the board continues to be expanded due to increasing demands from both internal and external stakeholders. For example, board sub-committees have become critical aspects of corporate governance effectiveness and feature prominently in governance reforms to increase board structural power. (McNulty et al., 2011). In 1992, only two thirds of FTSE companies had audit and remuneration committees (Laing and Weir, 1999). By 2020, audit, remuneration and nominations committees are mandatory and the average number of committees for FTSE 100 companies had jumped significantly to an average of four (Vinnicombe et al., 2020). This effectively results in further differential power levels among board members. Chairing one of the boards sub-committees, in particular one of the three mandatory board committees, can be an internal source of power and influence for NEDs (Pettigrew and McNulty, 1995).

A third senior level board role (after the Chair and CEO) is the Senior Independent Director (SID). A recommendation from the Higgs review, it first appeared in the 2003 UK Combined Code. The role was conceived to be an alternative point of contact for investors and other directors as well having the responsibility to oversee succession planning for the Chair. Research shows that Senior Independent Directors have moderately higher power than other non-executives and can also be an important counterbalance to CEO power (Krause, Withers and Semadeni, 2017).

As a result of many of these reforms, there is overall recognition by board members that there is a sharing of power between executive and non-executive in UK corporate boards (Pettigrew and McNulty, 1995). Still, the CEO and the Chair have disproportionately higher levels of power relative to other non-executives (McNulty et al., 2011; Pettigrew and McNulty, 1995; Stevenson and Radin, 2015). While the CEO still has considerable control over the board and other executives, the role of the chair is critical in terms of counterbalancing the power and influence of the CEO (Kakabadse, Kakabadse and Barratt, 2006).

### 3.4.2 Status

Power, however, is not just about the formal position in the organizational structure. In addition to formal hierarchies, informal or social hierarchies naturally develop in organizations where group members, who are considered to make important contributions or have characteristics that are valued by the group, are conferred a higher status ranking within the group. Research has shown that individuals with higher status tend to talk more, offer their opinions and suggestions more often and gain consensus more easily than low status individuals (Lucas and Baxter, 2012). Further, research shows that these status distinctions are enduring and the rank ordering of group members is highly consistent among the group (Anderson and Brown, 2010).

Status ranking or social power can be based on individual competence and expertise, access to information or other valued resources associated with their external networks. (i.e., multiple directorships). Formal positions, even though more closely associated with structural power, can also use the status and symbolism associated with their structural role to influence (Gareth Morgan, 2016; Magee and Galinsky, 2008). This status organizing process is particularly relevant for corporate boards and their decision-making process based on consensus. Those with higher status will have more influence over group decisions than those with lower status and accordingly play a larger role in determining group decisions (Veltrop et al., 2017).

In determining status ranking in groups, members must often rely on status cues (Veltrop et al., 2017). As discussed, these status cues can include those based on one's formal positions in the hierarchy, reputation/prestige, status in the business community (board interlinks) or diffuse characteristics like age, race and gender (Berger, Cohen and Zelditch, 1972). A tangible status differentiator is the formal role held by directors, such as the Chair, leading the board, the CEO leading the company, and committee chairs leading sub committees. These formal positions convey legitimacy, and we can expect then that each of these roles will be afforded a relatively higher status level within the group.

Prestige characteristics can also be implied from a director's reputation or status in the wider business community. Interlinks are board members who serve on more than one board. The number of board interlinks may be taken as a way to assess a

director's status. Interlinking directors have come to represent the social ties of the business elite, can enhance the legitimacy of the firm and can be considered as linkages to external knowledge and resources which leads to higher status for the individual (Shropshire, 2010; Stevenson and Radin, 2015).

Finally, diffuse characteristics such as gender can also influence status ranking. Given these informal hierarchies are socially constructed, they can be more prone to social bias. Status characteristics theory explains that gender operates as a status cue producing implicit performance expectations that create status differences for men and women. Persistent gender stereotypes that continue to favour men over women for leadership roles mean that women directors are assigned lower status in the group, have reduced legitimacy (Ridgeway, 2001; Weck et al., 2021) and tend not to be treated as equal members of the group (Groysberg and Bell, 2013) (Nielsen and Huse, 2010a; Sidhu et al., 2021) so that their ability to influence board decisions is compromised. Research, however, has also shown that the salience of gender as a status cue can be reduced when women are in a high status role, such as a respected leadership position, where they can be just as influential as men (Lucas and Baxter, 2012).

Board gender diversity is theorized to bring different and valuable cognitive, experiential and relational resources leading to better decision making (Nielsen and Huse, 2010b; Singh, Terjesen and Vinnicombe, 2008) and to more informed strategic choices. Paradoxically, (Sidhu et al., 2021) study examining the relative influence of women directors found that more gender diversity actually activates the old 'boy's club'. Only when the board was chaired by a woman, were the benefits of gender diversity realized. Other research reports similar results concluding that the structural enhancement of appointing a woman to a powerful position such as the chair, for example, is a more important strategy to enable female director influence than having a critical mass (Weck et al., 2021).

Both the formal and informal hierarchies of board can have effects on individual member's ability to influence others and affect decision-making. Informal status structures are as powerful as formal ones in terms of establishing who will have status and power in the group (Berger, Cohen and Zelditch, 1972). Indeed, (Stevenson and Radin, 2015) suggest that in order to understand how decision-making is influenced

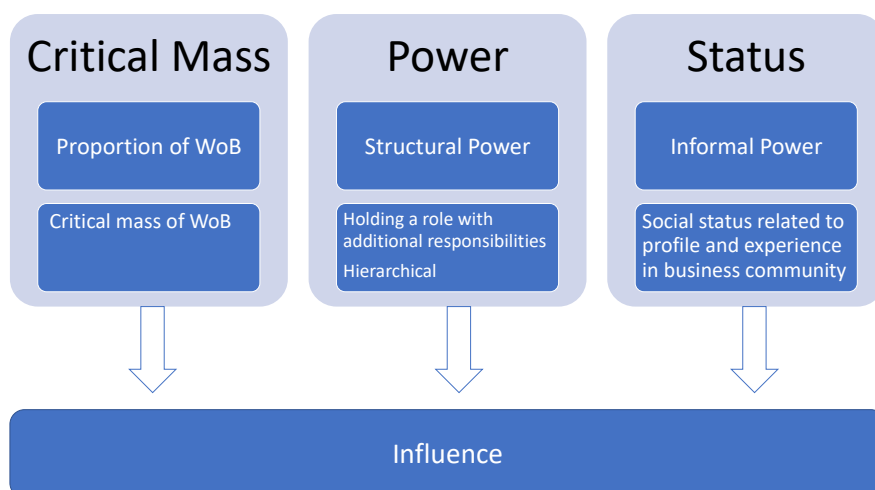
at board level it is necessary to consider both the formal and informal structuring of the board.

### 3.5 Summary

In summary, the power and influence that individual directors have on their boards is the result of both their board role, which have aspects of both structural power and status, as well as the status conferred by other largely based on their position in the business community. For women directors, their presence in more powerful board roles and the status associated with them appears to be especially important to influence board processes and outcomes.

Taken together, the foregoing suggests that simply increasing the numbers of WoB may not be enough to influence diversity outcomes. Therefore, I propose to integrate the constructs of power and status along with the proportional representation (i.e. critical mass) of female directors in analyzing the gender composition of boards and how this relates to the numbers of women in the executive levels. Figure 9 below outlines my theoretical framework.

**Figure 9 - Theoretical Framework**



Essentially, I will examine the configurations of corporate boards by operationalizing the three constructs of critical mass, power and status as it relates to WoB. My goal is to understand whether any one of these on their own or in some combination is associated with better gender balance in the executive levels.

### **3.6 Numbers, Power and Status of Women on Boards: Toward a Configurational Approach**

While critical mass theory has dominated research on the gender composition of boards, there are a number of studies analyzing the influence of powerful positions on the board (Banerjee, Nordqvist and Hellerstedt, 2020; Kakabadse, Kakabadse and Barratt, 2006; Krause, Withers and Semadeni, 2017; McNulty et al., 2011; Pettigrew and McNulty, 1995). While these studies do not examine these roles from a gender perspective, they do offer important insights into how the power and status associated with various board roles can lead to increased influence affecting various outcomes. While helpful, they do not go far enough in considering the complexities of board dynamics and intergroup relationships. Besides Vandewaerde's conceptual framework on shared leadership in the boardroom (Vandewaerde et al., 2011), most of those studies investigated power and status as an aspect of rank within an organization where rank is an individual level construct representing the individuals position within a hierarchy (van Kleef and Cheng, 2020) but have failed to incorporate into the analysis the group level construct of hierarchy.

While there have been a few exceptions, it is interesting that many management scholars have not embraced a configurational tool like QCA when many of the phenomena they study are configurational by nature. For example, Porter's five force model identifies five distinct forces that *together* determine an organization's competitive advantage and influence its ability to produce a profit. It is the interaction of these five forces, namely the number and power of a company's competitive rivals, potential new market entrants, suppliers, customers, and substitute products that will influence the outcome, profitability.

Corporate boards are also configurational by nature where a group of individual members work together to perform the various functions of a board including the

monitoring and oversight of management, providing counsel and advice to the executive and creating linkage with external resources. Each of its members bring different skills, experiences and viewpoints and they also have different board responsibilities and it is the interaction of these individual role holders that will affect board decision making and outcomes. Given the interdependent nature of board processes and decision making, a configurational approach can examine the confluence of multiple influencing conditions and conduct a cross case analysis to identify patterns of association that are consistent with an outcome of interest.

Even though there is not an explicit power hierarchy on corporate boards due to their shared decision-making model, the job roles, responsibilities and titles make it clear that different board roles carry different levels of status, power and therefore influence. Therefore, I will incorporate into my analysis these additional aspects of the power or status of women board members, alongside their numbers, to better articulate what combinations of WoB improve diversity below the board. I expect that this approach may help to explain the variations we observe across companies and provide insight into how and when WoB can activate the trickle-down effect.

Taking this configurational approach facilitates a more holistic approach to the understanding the relationship between women on UK corporate boards and gender diversity in senior executive levels. Integrating research on critical mass and the constructs of power and status with the configurational aspect of corporate boards may provide more explanatory power. In order to conduct this configurational analysis, I will use Qualitative Comparative Analysis (QCA), specifically fuzzy set qualitative comparative analysis (fsQCA) (Ragin, 2008; Ragin and Davey, 2016) to conduct an exploratory comparative case analysis of FTSE 100 boards.

### **3.7 Final Research Questions**

Combing all three aspects, namely;

1. The proportional representation of WoB
2. Women board members with power or status
3. Board configurations

My final research questions are:

1. Does the presence of WoB activate the trickle-down effect?
2. What board gender configurations (in terms of roles held by female directors) are associated with the trickle-down effect?
3. What mechanisms underpin the trickle-down effect?

## **4 RESEARCH DESIGN & METHODOLOGY**

### **4.1 Introduction**

This chapter will discuss in detail the methodological choice and how this has aligned with my philosophical perspective. It will explain that this research adopts a critical realist orientation to conduct an exploratory analysis of FTSE 100 companies examining the relationship between WoB and better gender balance in the executive levels. Moving away from the dominant positivist perspective in WoB research, this study will employ a Qualitative Comparative Analysis (QCA). I will explain how QCA is particularly well suited to analyse complex causality and support the multi-theoretic framework outlined in Chapter 3. I will outline the QCA method, my sample selection and how I used a QCA to analyze and interpret the results. The chapter closes with ethical and practical considerations.

### **4.2 Research Objective**

The main goal of this research was to examine the impact of a critical mass of WoB on gender diversity below the board by not only considering the effect of women director's numbers, but their power and status as well. The research to date on the influence of WoB on the gender balance below the board has been equivocal. Studies mostly support the positive influence WoB have on the cultural and reputational aspects that are presumed to support women's experience at work and their career progression (Cole and Salimath, 2013; Li et al., 2018; Rhode and Packel, 2014; Windscheid et al., 2016), however, their role in activating and producing the trickle-down effect is much less clear. Some studies show that the presence of WoB have had a positive effect on gender diversity below the board (Bilimoria, 2006; Halrynjo and Blair-Loy, 2021; Matsa and Miller, 2011; Skaggs, Stainback and Duncan, 2012), others show none (Bennouri, De Amicis and Falconieri, 2020; Bertrand et al., 2019; Klettner, Clarke and Boersma, 2016; Terjesen and Singh, 2008) and some suggest that the presence of a female director with power or status is more important than the numbers of women on the board (Cook, Ingersoll and Glass, 2018; Cook and Glass, 2015b, 2018; Furlotti et al., 2019). While some studies have included interaction

effects, such as the proportion of female directors *and* their roles (for example, Cook and Glass, 2015a), none have examined them in various combinations.

Therefore, rather than just looking at numbers of women on board, this study will take a more nuanced view of the boards and incorporate into the analysis the hierarchical structure of corporate boards and the power and status attached to the various board roles women hold and their status as directors. The analysis is designed to explore WoB from a configurational perspective and examine what configurations of WoB, in terms of their numbers, power and status are associated with a better representation of women in senior executive levels. To further contextualize the results of this analysis, semi-structured interviews will be conducted with a number of board experts.

### **4.3 Philosophical Perspective**

Philosophy, from the Latin word *philosophia*, means “love of wisdom”. It is the study dealing with fundamental questions about the nature of reality, human existence and experience. Research philosophies are the frameworks that guide how research should be conducted based on beliefs about reality, the nature of knowledge and an agreed upon approach on how phenomenon should be investigated and interpreted. Different philosophical paradigms will influence the way in which phenomena are studied including what type of data should be collected and how it should be analyzed.

A research paradigm encompasses four categories that together articulate a world view, an approach to knowledge and knowing:

1. a perspective on the nature of reality and whether there is one or multiple realities (ontology),
2. a view of what constitutes knowledge and what we can characterize as knowledge versus belief (epistemology),
3. how we come to know and learn about reality (methodology), and
4. the role that our values or ethics have on the knowledge being acquired (axiology).

A researcher’s worldview will have implications on the type of research questions asked, the methodologies used, how and what type of data is gathered and analysed

and ultimately the interpretations and conclusions made. A coherent approach is important in ensuring alignment between the research goals and the approach taken and can add credibility to the research results.

### **4.3.1 Positivism and Interpretism**

The two primary research philosophies are positivism and interpretism and they represent two fundamentally different ways of viewing the world and as a result have a significant influence on how research problems are tackled. Positivists believe in one single quantifiable reality where knowledge can be objectively determined. Their research approach focuses on identifying trends and patterns and uses mathematical and statistical techniques to investigate. These quantitative methods focus on large scale data collection and analysis in order to uncover trends and patterns that can be generalized from the sample to the larger population (Denzin and Lincoln, 2017; Dudovskiy, 2020a).

On the other hand, an Interpretivist rejects that there is a single reality and instead believes there are multiple realities that are created by the individuals' perceptions and experiences (Denzin and Lincoln, 2017; Dudovskiy, 2020b). Interpretivists prefer qualitative methods that allow for a thick and rich investigation of a subject to gain a detailed understanding of a phenomenon. They prefer to focus on the individual and develop deep meaning and rich understanding of human behaviour in a particular context and do not claim to, nor are interested in, providing predictions or being able to generalize their findings.

These two paradigms represent opposite ends of the philosophical spectrum and two very different world views. The positivist perspective of only one reality that can be measured and employs a reductionist form of data analysis to determine correlations and probabilities. These methods assume linear relationships, largely ignore the influence of context and therefore limits explanatory power. Indeed, much of the previous research on the gender composition of corporate boards has taken a positivist approach utilizing quantitative methods, mainly regression analysis, to provide evidence of the effect WoB have on various gender diversity outcomes. These

findings are limited as they have not been able to analyze complex interactions and rely on existing theory to propose what mechanisms may be underlying the result.

On the other hand, the interpretivist approach and the knowledge generated from this form of analysis is highly relative to the time, place and context of the research study. While these studies can provide deep understanding they are highly contextual and therefore can be lacking in their ability to generalize the results to other circumstances of the phenomena being investigated.

### **4.3.2 Critical Realism**

Valuing the advantages of both qualitative and quantitative research, this research will adopt a critical realist philosophy. Critical realism sits somewhere between positivism and interpretivism. While critical realists believe that there is a single reality, they also believe that reality cannot be accessed directly so our perception of the events and circumstances that we observe or experience may be different than the actual events that occur. This viewpoint follows from a belief that reality is stratified into three domains, empirical, actual and real. The empirical domain consists of observable events or effects that can be observed and measured. These events, however, are subject to interpretation based on individual experiences and perceptions. In the actual domain, events and their effects exist independent of whether or not they are observed or experienced in the empirical domain. Finally, the real domain is believed to contain the structures and mechanisms (causal forces) that produce events in the actual and empirical domains (Willmott and Al-Amoudi, 2011).

A primary goal of critical realism is to explain social events and effects by identifying causal mechanisms. From a critical realist perspective, mechanisms are activated, or not, through individual agency and are shaped by the social contexts they are operating in. That is, in addition to the individual choice of enacting agency, social structures and social organization set boundaries on human agency in achieving a desired outcome. Moreover, critical realists differentiate between the events we witness and the mechanisms that generate them. Because the mechanisms reside in the 'real world' and therefore cannot be accessed directly, mechanisms can only be

uncovered through a process of inference by analyzing and interpreting data relative to the context being investigated (Bergene, 2007).

Importantly, this ontology has implications for a critical realist's view of causality. The existence of the causal powers of mechanisms does not necessarily mean that they will always be realized, rather that they have the potential to either enable or constrain an outcome (Gerrits and Verweij, 2013). Therefore, from a critical realist's perspective, mechanisms are generative, that is, mechanisms make outcomes possible but they do not guarantee their occurrence. Further, critical realists do not believe empirical consistencies in data are evidence of causality as they are merely empirical manifestations of underlying causal mechanisms. While they provide evidence of causality, the question of causality must be answered by postulating how and why the presence of the causal conditions make the outcome possible (Rutten, 2020).

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#### **4.3.2.1 Critical Realism and Qualitative Comparative Analysis**

QCA is an exploratory case-based methodology that considers cases holistically as configurations of causal conditions and outcomes. It was designed to identify consistencies or regularities in a cross-case analysis which are then expressed as consistent set relationships or configurations. QCA uses consistency thresholds to ensure the mechanisms implied in the solution are most often activated but allow for the instances where they are not due to some unknown constraint operating between social structures and human agency (Rutten, 2021).

Causal claims, however, can only be made through retroductive reasoning, by conducting a within case analysis and triangulating theory, empirical evidence and substantive knowledge to develop causal arguments (Ragin, 2008; Rutten, 2020; Schneider and Wagemann, 2012). Here we can see how QCA's approach to developing causal claims based on imperfect consistency and a substantive interpretation of empirical causal factors aligns with a critical realist contention that mechanisms are generative, do not always produce the expected outcome and that they can only be inferred from empirical observations.

Figure 10 below provides an overview of the research approach for this study followed by a more detailed discussion.

**Figure 10 – Critical Research Process – QCA Methodology**

**Step 1 - Theory**

Develop theoretical framework to predict mechanism, their impact and what activates them

**Step 2 - Analysis**

Identify conditions to represent theoretical constructs. Collect data and perform QCA analysis taking an iterative approach to confirm choice of conditions and cases

**Step 3 - Retrodution**

Conduct within case analysis to interpret findings and supplement with theory to propose how and why the presence of the cause makes the outcome possible

**4.3.2.2 Step One**

The first step has already been addressed in Chapter 3 where I developed the theoretical framework that underpins this research. The framework identifies the constructs of critical mass, power and status, each of which research has shown are related to the ability to influence diversity outcomes, specifically the trickle-down effect. While the dominant theoretical lens for WoB researchers has been critical mass theory, results have been equivocal and therefore calls into question the suitability of critical mass theory to explain when WoB can activate trickle-down mechanisms and consistently produce the trickle-down effect. I have noted that there is an emerging stream of research looking at the power and status of female directors and their influence on a number of gender diversity outcomes. For example, the likelihood of appointing a female CEO increases with interlinked female directors, (Cook and Glass, 2015a) and women CEO’s with influential women board members are more successful in driving diversity agendas (Glass and Cook, 2018). Further, (Furlotti et al., 2019) found that it was the presence of a female Chair that was associated with diversity commitments, initiatives and policies.

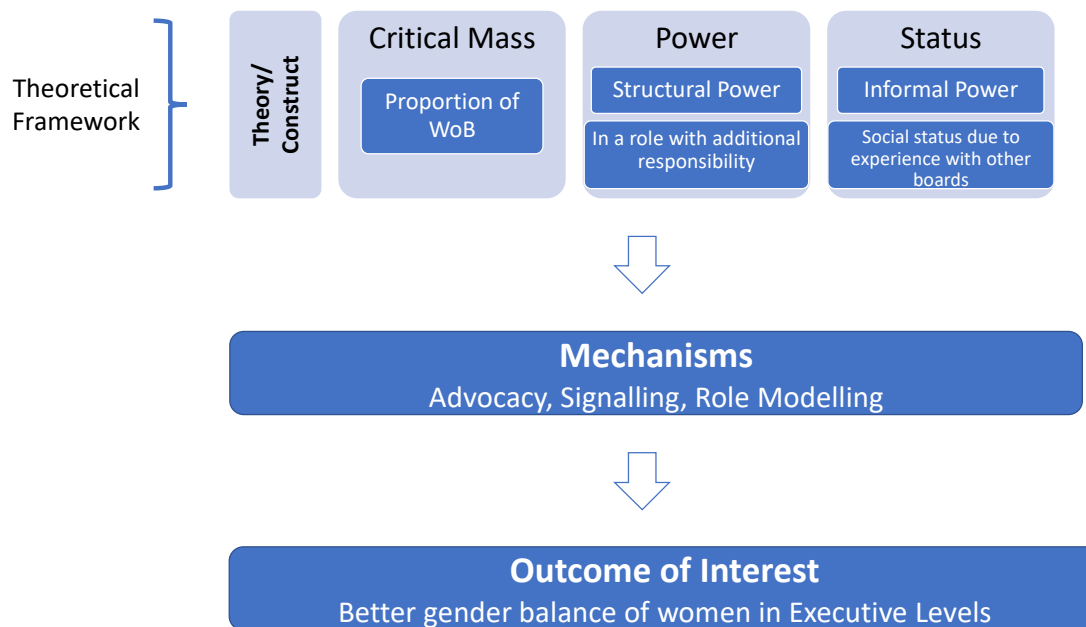
I have also pointed out that the corporate governance literature has demonstrated the important role power plays, examining the power of executives and non-executives

and the corporate governance structures that help to ensure a balance of power between them. Taken together, this suggested that a multi-theoretic framework may provide a more robust assessment of how and when WoB can have an impact in driving better gender balance below the board. As a result, my theoretical framework incorporates critical mass theory with the constructs of power and status.

I also identified three mechanisms from the literature that, when activated, could produce the trickle-down effect. (Gould, Kulik and Sardeshmukh, 2018) have theorized that the trickle-down effect is activated via two mechanisms, signalling and advocacy. Either the presence of women in senior leadership roles make the organization more attractive to aspiring female leaders (signalling), or WoB advocate for other women and for more female friendly policies and processes (advocacy). Other researchers have suggested women in senior leadership position are an important source of role models, the lack of which has been cited as a major barrier to women's career success (Sealy and Singh, 2010). Therefore, the three mechanisms considered important for the trickle-down effect are signaling, advocacy and role modelling.

Figure 11 below expands the theoretical framework to include these mechanisms which when activated leads to the trickle-down effect and the outcome of interest, 30% or more women in the executive levels.

## **Figure 11 - Theoretical Framework & Mechanisms**



#### 4.3.2.3 Step Two

The second step was to operationalize the constructs in my theoretical framework and conduct the QCA. To operationalize these constructs I was guided by theory. First, I relied on the critical mass literature to identify when a critical mass is achieved, which according to the critical mass theory would allow WoB to have more influence in the board decision-making process. This became the first explanatory variable or condition as it called in QCA.

I then turned to the WoB and corporate governance literature on power to identify board roles that have more power. It is widely accepted that EDs, especially the CEO, have significant levels of power and influence. While it would have be preferable to employ a condition based on whether there is a female CEO, given the low number of female CEOs in FTSE 100 companies, it was necessary to create a condition based on the presence of a female ED. Therefore, the presence of a female ED became my second condition.

Research also suggests that there are two senior non-executive positions, the Chair of the Board and the Senior Independent Director (SID), who have also been shown

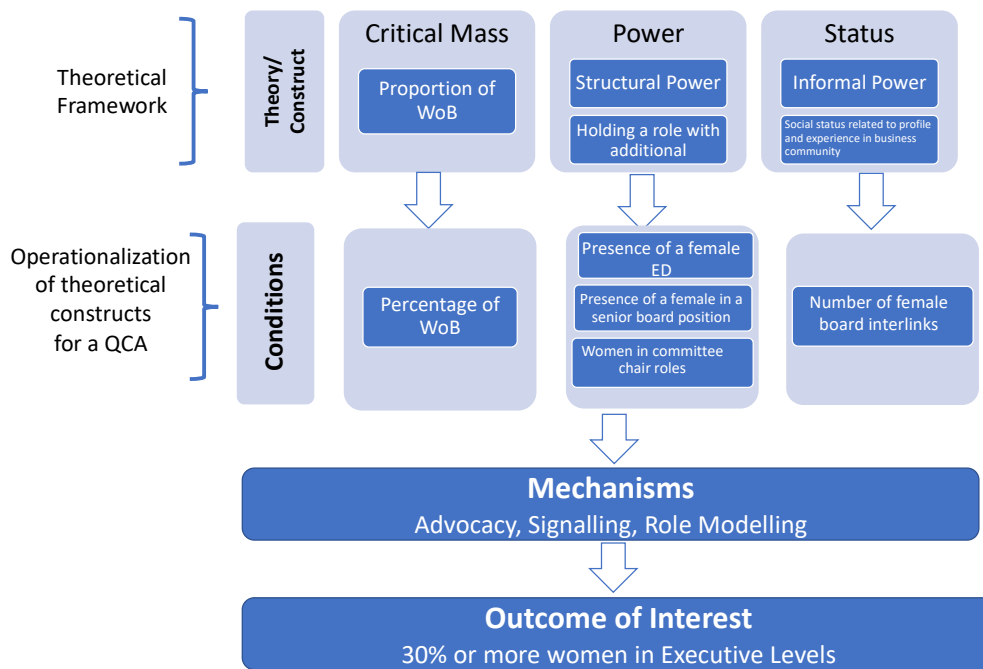
to have more power and influence. Once again, given the low number of female Board Chairs in FTSE 100 companies it was necessary to combine these two roles to create a third condition measuring the presence of a senior non-executive. Then, on the basis that chairing a board committee can also be a source of power for non-executive directors, the presence of females chairing a committee became a fourth condition.

Related to the construct of status, I followed a number of other scholars who use the number of board interlinks to represent the esteem and status associated with directors who sit on multiple corporate boards, thus the number of female board interlinks was selected as a fifth condition for the QCA.

In order to operationalize the outcome of interest for this study, which is better gender balance in the executive levels, I identified a percentage of women executive to represent "better gender balance". In my data set of FTSE 100 companies, the average representation of women in the two levels below the board (Executive Committees and their direct reports) was just under 30.5% and so I chose 30% to represent a level that was better than average.

Figure 12 below integrates the theoretical framework and the operationalization of the constructs which resulted in five explanatory conditions for the QCA. It also includes the mechanisms discussed in section 4.3.1, that are theorized to activate the trickle-down effect and lead to the outcome of interest, at least 30% female representation in the two levels below the board, the executive committee and their direct reports.

**Figure 12 - Operationalization of Theory for a QCA**



Now that the theoretical framework has been developed and the constructs have been operationalized with these five influencing conditions, I collected the data and conducted the QCA. Importantly, QCA allows for an iterative approach. This means it is possible to re-examine the theoretical framework, the conditions identified and how they have been operationalized in order to discover a solution that provides the best fit in terms of the strength of the relationships and its empirical relevance. In QCA this is done by the addition or elimination of conditions, changes in the calibrations of conditions or the addition or elimination of cases. This is an iterative process with the goal of improving the QCA solution and findings. Conditions and cases may be added or deleted based on theory or case knowledge to improve the strength and explanatory power of the QCA solution.

During this process I ran a number of models, where I removed conditions to see the effect on the consistency and coverage scores so I could ensure the final model was the best. Calibration was another area where I tested different approaches to the calibration of the conditions. Calibration is the way that QCA adds meaningful values to the data being analysed and is guided by theory or substantive knowledge.

Calibration is how the degree of membership in a defined set or condition is determined. For example, in order to assign countries to the set of rich countries, which is operationalized by annual GDP, you first need to define at which level of GDP is a country considered rich. I discuss my approach to calibration in more detail in the next chapter, however, I tested various calibrations of all five conditions, for example changing the threshold for critical mass and varying the degree of membership for the other four conditions.

#### **4.3.2.4 Step Three**

This third step employs the concept of retroduction. Retroduction is an inferential process drawing on theory, empirical observations and substantive case knowledge to hypothesize how and why causal factors and configurations produce an outcome. This involves a post solution analysis, a 'return to the cases', which is a key aspect of a QCA analysis. This is where the researcher performs a within case analysis to enhance their understanding and meaning of the QCA solution formula. This step involved secondary research on the cases (companies) identified by the QCA analysis to further contextualize the findings. It also involved a supplementary study with experienced board members and advisors to add additional perspective and help to postulate how and why the causal configurations are generating the outcome.

### **4.4 Research Design**

#### **4.4.1 A Mixed Methods Approach**

Given the critical realist's stratified ontology, specific research methods are not prescribed, therefore it is acceptable to use quantitative, qualitative methods or a combination of both to address research problems. For a critical realist, it is more important that the methods used allow for the identification of generative mechanisms and that the findings are context specific (O'Mahoney, 2016).

The choice of methods for this research was based on a number of considerations. First, given that most of the studies in this area have used quantitative methods and have been descriptive rather than insightful, I was determined to look for another

approach that would allow for a richer and more nuanced analysis. Moreover, my theoretical framework called for the inclusion of a number of explanatory variables and their interactions which would have been difficult to approach with statistical techniques. However, I also appreciated that quantitative research is still viewed by many stakeholders, especially practitioners, to be less biased and provides stronger evidence. In the meantime, I had been introduced a relatively new methodology for management studies, Qualitative Comparative Analysis (QCA). After some research it became clear that this would be a good fit for my research objective as it allowed for a more nuanced and complex analysis of corporate boards and their association with an outcome. Further, it aligned well with critical realist philosophy. (Gerrits and Verweij, 2013) have argued that because QCA provides a framework to analyze actual events and moves iteratively between observations and the identification of underlying mechanisms, it is particularly well suited for examining social complexity within a critical realist framework.

#### **4.4.2 Methods - Qualitative Comparative Analysis**

QCA is a research approach that employs an analytic technique using both quantitative and qualitative data. It is a case-based method designed to identify necessary and sufficient conditions for an outcome. A QCA combines case oriented qualitative research with variable oriented quantitative analysis. It is a configurational approach that takes a more holistic view by identifying configurations of conditions, rather than focusing on independent variables, that are related to an outcome. QCA is a methodology based on the idea that causal relations are often better understood in terms of set-theoretic relations rather than through correlations (Fiss, 2007; Greckhamer et al., 2018; Ragin, 2008).

QCA has a number of advantages over traditional regression analysis which is characterized by multivariate regression approaches that separate the effects of individual variables and produce additive, unifinal and symmetrical models (Misangyi et al., 2017). QCA, on the other hand, has been designed to embrace causal complexity using a configurational approach that embraces three key features fundamental to a configurational analysis, namely conjunction, equifinality and asymmetry. Conjunction is when multiple explanatory or causal factors combine

together to produce an outcome. Equifinality suggests that there may be more than one pathway or configuration of causal conditions that are related to an outcome of interest. Finally, asymmetry means that causal conditions found in one configuration may work differently in other configurations.

It is important to note that QCA is a relatively new methodology and has already evolved quite significantly since its introduction by Charles Ragin in 1987 (Ragin, 2008). New software and techniques have been developed to allow for even more nuanced analyses. My analysis was conducted using fsQCA software, which is the original software developed by Ragin and colleagues, however, it became necessary to look for more advanced software to resolve a conflict in my QCA solution which I note in Section 4.1.4.1 and describe more fully in Section 5.5.

QCA allows us to look at various configurations that lead to an outcome of interest. Using QCA will allow me to analyse board composition from a configurational basis and involve multiple conditions which better reflect the complexity of social reality and group dynamics. The primary focus of this QCA analysis provided a necessity and sufficiency analysis of the theoretical attributes or conditions of corporate boards that are expected to influence the outcome of interest; 30% or more females in senior executive levels.

Once the necessity and sufficiency analysis was determined, a post solution analysis was undertaken. The post solution analysis is a key aspect of conducting a QCA where a within-case analysis is conducted. This is where the researcher examines the cases identified in the sufficiency solution to enhance their understanding and meaning of the QCA solution formula. This step involved secondary research on the cases (companies) identified by the QCA analysis to further contextualize the findings as well as a supplementary study with experienced board members and advisors to add additional perspective and help to postulate how and why the causal configurations are generating the outcome. As board processes and dynamics are key aspects to understand how boards operate and make decisions, interviews with UK board experts (i.e. Board Chairs, CEOs, experienced NEDs and board advisors) were key in providing insight and perspective on how and why the causal configurations may be generating the outcome and on the mechanisms involved in activating and producing the trickle-down effect.

### **4.4.3 Sampling Strategy**

The sample identified for this analysis was companies in the FTSE100. This sample was selected for two primary reasons. First, while Boardex is a reliable source for detailed and reliable information on the corporate directors of publicly listed companies, information on senior management is less standardized. The Hampton Alexander Review, however, has been collecting and reporting on the gender representation for the two levels below the board (the Executive Committee and the direct reports to the Executive Committee). Therefore, it provides reliable and consistent data on the gender composition of these two levels, which measured the outcome of interest in this research.

Secondly, the sample was limited to FTSE 100 companies to allow for a more in-depth case analysis important for the post solution analysis to guide the substantive interpretation of the findings as well as identify the mechanisms associated with the causal conditions that lead to the outcome.

### **4.4.4 Data Analysis**

When undertaking a QCA, there are a number of steps to be followed. Once the data has been collected on the influencing conditions and the outcome of interest, the data is calibrated. This a process whereby the raw numerical data is transformed into their set membership values. Set membership thresholds are qualitatively determined and are informed by theory and substantive knowledge. Once the calibration process is completed software is employed to examine the relationships between the influencing conditions and the outcome in terms of their necessity and sufficiency.

#### **4.4.4.1 Necessity Analysis**

When first conducting a QCA, it is recommended to first conduct a necessity analysis to determine if any of the conditions in the model are necessary for the outcome to occur. My necessity analysis suggested that a critical mass of WoB was a necessary condition. I was then very surprised, when I ran the truth table algorithms to produce the QCA solution, to see that one of the configurations included the absence of a

critical mass of WoB, implying that a critical mass of WoB was not necessary. In order to reconcile this conflict it was necessary to look at more sophisticated techniques. I discuss this in more detail in the next chapter in Section 5.5, but I was able to resolve this with more sophisticated software and provide a more nuanced explanation for the relationship between a critical mass of WoB and the presence of 30% or more women in executive levels.

#### **4.4.4.2 Sufficiency Analysis**

**4.4.4.3 A sufficiency analysis is the primary purpose of a QCA and is designed to find the minimal configurations of conditions that are sufficient for a given outcome. To do so, the fsQCA software creates a truth table of all the possible configurations of conditions and assigns each of the cases to a truth table row. Using the empirical observations and theoretical assumptions a minimization algorithm simplifies the truth table to provide the sufficiency solution. This solution minimizes the configuration of conditions removing those that were unobserved and theoretically inconsistent or those that are observed but are redundant relative to the outcome. The sufficiency solution results in these simplified configurations of conditions that are consistently associated with the outcome. When performing the minimization process, all five of the explanatory conditions, a critical mass of WoB, the presence of a female ED, the presence of a female Senior NED, the presence of a female committee chair and the presence of a highly interlinked female board were expected, based on theory, to positively contribute the outcome of interest, better gender balance in the executive levels.**

**Post Solution Analysis**

The sufficiency solution provides the board configurations are associated with higher levels of gender diversity below the board, however, it does not provide insight into contextual factors or the mechanisms that may underpin these associations. These are explored and hypothesized in the post solution analysis. This included a within-case analysis of all the cases used in the analysis as well as the interviews with UK board experts.

##### **4.4.4.3.1 Within-Case Analysis**

For my within-case analysis, I primarily relied on company websites, news articles and press releases. I also used the historical information on Boardex which allowed me to see board membership on a historical basis. Using this information I performed a comparative analysis of cases to support my interpretation of the sufficiency solution.

An analysis of cases that are consistent with the sufficiency solution was helpful in facilitating the analysis and inference of causal mechanisms while analyzing the cases that deviated from the sufficiently solution provide further insight enabling theory elaboration (Schneider and Rohlfing, 2013).

#### **4.4.4.3.2 Supplementary Analysis: Semi-structured Interviews**

To gain a deeper insight into the workings of the combination of conditions (board roles) identified in the QCA, I conducted a number of semi-structured interviews with highly experienced board members and advisors. While the configurational analysis identified board configurations that consistently led to 30% or more women in executive levels, the interviews with experts provided important real-world insight to better contextualize these findings. Importantly, these interviews provided further insight into why and how mechanisms are activated and make the outcome possible. The interview participants were selected specifically because they had been gender diversity advocates and I wanted to understand their personal experiences and perspectives as it relates to both improvements in the representation of WoB and how that might be influencing gender diversity below the board. All were very senior participants in the corporate governance function of the top 100 public companies in the UK and all more than capable and comfortable in offering their perspectives.

In order to mitigate researcher bias and maintain the integrity of the interview process, a number of steps were taken. First, the interview questions were carefully considered and reviewed by both of my supervisors. Second, all interviews were supervised by Professor Sue Vinnicombe, a highly experienced qualitative researcher and interviewer. Professor Vinnicombe's supervision of this process was also necessary as the interview participants were part of Sue's professional network and it was important that Sue attended to safeguard these important relationships.

##### **4.4.4.3.2.1 Interview Protocol**

The selection of board experts followed a purposeful sampling strategy with a stated preference to choose board members and advisors who have shown a commitment to develop better gender balance in organizations. There are two reasons for this. First, my research objective is to understand whether the presence of WoB is

positively influencing better gender balance in the executive levels. The QCA analysis was designed to identify board configurations with WoB that have a critical mass of women directors as well as women in positions of power and status and how they relate to the presence of the outcome, 30% or more women executives. As I wanted to contextualize those results, speaking to senior leaders who are more likely to have been involved in boards that have these aspects rather than those who do not will facilitate this objective. Secondly, while it would be interesting to compare and contrast my analysis with boards that do not have women directors with power or status, it is less likely they would have agreed to be interviewed.

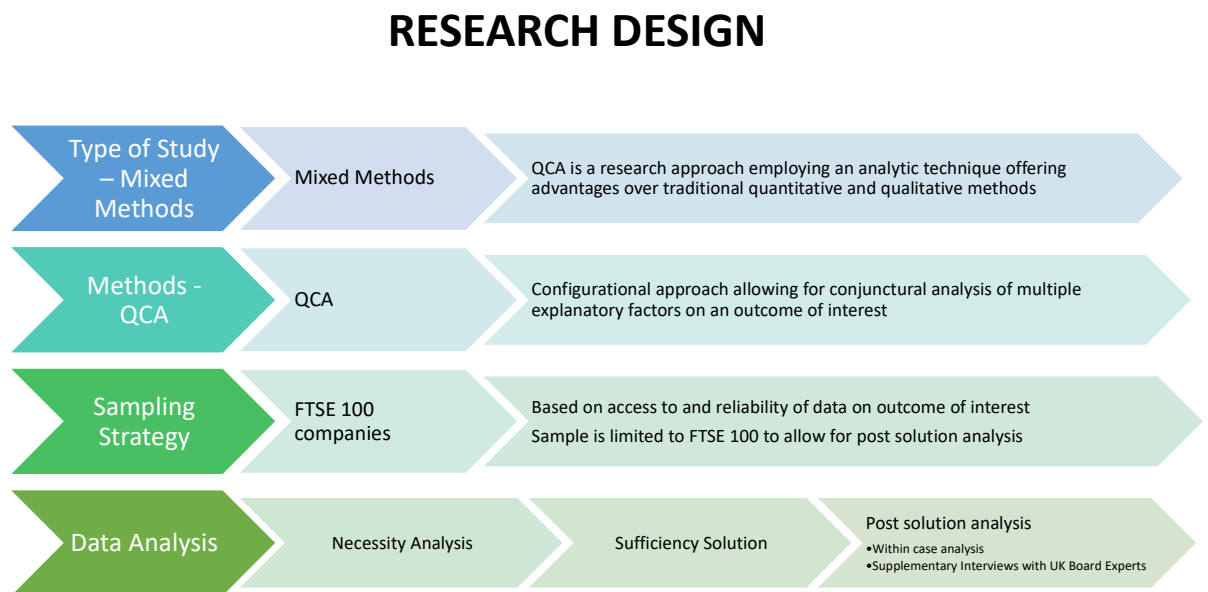
The interview protocol and interview questions were developed on the basis of the QCA findings to help identify the mechanisms and importantly when they may be activated and lead to a trickle-down effect. All interviews were recorded using zoom software and fully transcribed by myself. I also used NVivo to organize, store and analyse the data from the interviews.

#### **4.4.5 Summary**

This research design took a mixed methods approach and was structured to address the limitations of the statistical techniques which has dominated research thus far and has produced equivocal findings. Respecting the complex interactions and interdependencies in social science research, the methodology chosen for this research was a Qualitative Comparative Analysis (QCA), which allows for the analysis of causal relations in terms of set-theoretic relations rather than through correlations. This approach embraces causal complexity and allows for the analysis of distinct configurations that lead to an outcome of interest.

The sample selected was FTSE 100 companies, a relatively small sample with access to reliable and consistent data for the explanatory variables and the outcome of interest. The post solution analysis, a key aspect of a QCA, which was supplemented with interviews with experienced board members and experts was key in providing a real-world perspective to the research and both were instrumental in interpreting the findings. Figure 13 below summarizes my Research Design as described above.

**Figure 13 - Research Design**



### 4.5 Ethical & Practical Considerations

Prior to undertaking the research I had familiarized myself with the Cranfield Integrity Policy Statement and the Cranfield University Ethics Policy and agreed with the approach to recognize personal responsibility for developing and maintaining sound and rigorous research practices.

The QCA for this project used publicly available data found on BoardEx and from publicly available reports issued by the Hampton Alexander Review. Accordingly, there were no conflicts in accessing, handling or reporting on this data.

The supplementary study involved semi-structured interviews for which I obtained ethical approval before proceeding with the project. There are a number of ethical considerations when conducting interviews. Four principles must be considered when conducting interviews (Bryman and Bell, 2003).

1. Potential to harm participants – this principle provides guidance to ensure that precautions are taken so that participants are not adversely affected by

their participation in the research project. This includes maintaining confidentiality and anonymizing data.

2. Informed consent - this includes making explicit details about the research project so that a participant can reasonably determine whether they want to participate or not.
3. Right to privacy – in addition to ensuring confidentiality and anonymity, consideration should also be given to ensure that a participant privacy is not infringed upon by the use of personal questions or the disclosure of sensitive information during the course of the interviews.
4. Deception – deception could occur when the researcher might prefer to keep the objective of the research vague so the participants can participate more naturally and not tailor their responses to align with the stated goals of the research.

These principles guided the interview protocol as well as the data collection, analysis and reporting aspects of this research project.

## **5 DATA COLLECTION & ANALYSIS - A QCA STUDY**

### **5.1 Overview of QCA**

Management scholars and organizational theorists have long since recognized that organizational outcomes are influenced by the confluence of a number of interdependent factors or elements even though tools to analyze these complex causal relationships were not available (Misangyi et al., 2017). In order to address this methodological shortcoming, Charles Ragin developed a new analytical technique called Qualitative Comparative Analysis (QCA) (Ragin, 2008). Originally developed to study macro level issues that were too small to use traditional statistical techniques and too large for case study analysis, QCA is increasingly being used in the field of management. QCA is a configurational approach that is well suited to study organizational outcomes as it acknowledges both the complex and interdependent nature of organizations. This methodology was developed on the basis that applying a set theoretic approach can better explain causal relations than correlations (Fiss, 2007; Ragin, 2008).

QCA is first and foremost a research approach, a systematic case-oriented approach to examine casual complexity incorporating the concepts of conjunctural (the presence of multiple conditions), equifinal (the presence of multiple configurations of conditions) and asymmetric (conditions explaining the outcome may be different than those explaining the absence of the outcome) causation. It is supported by analytical techniques that use set theoretic relationships and formal logic to identify empirical patterns of association in the data which are then assessed on the basis of sufficiency and necessity. The qualitative aspects of QCA include incorporating theory to guide calibration of the data and the ability to take an iterative approach in identifying, modelling and reconstructing conditions to improve the explanatory power of the solution (Schneider and Wagemann, 2010). The solution also identifies prototypical cases in each of the configurations and includes a measure of fit for each configuration and the overall solutions which indicates the strength of the solution in explaining the outcome and its empirical relevance (Fainshmidt et al., 2020).

A qualitative comparative analysis is designed to help answer the question “what configurations of attributes or conditions are associated with an outcome of interest?” (Greckhamer et al., 2018). It begins by identifying an outcome of interest and a number of influencing conditions which are thought to be important based on theory and substantive knowledge. The number of conditions will determine the number of logically possible configurations. As the number of conditions increase, the number of logically possible configurations also increase. For example, with five influencing conditions, there are 32 logically possible configurations. Adding a sixth condition increases the number of possible configurations to 64 so it is important to balance the number of conditions against the number of cases to ensure the analysis is not overly complex. Furthermore it is important to ensure that there is diversity in the empirical observations of configurations as well as diversity in the outcome (Ragin, 2008).

Each condition is then calibrated to determine its degree of membership in the condition. A truth table is constructed with a row for each logically possible configuration of conditions and each case is assigned to a row based on its Set Membership Score (SMV) in the configuration. SMVs can either be dichotomous (1 = included in set membership or 0 = excluded from set membership) as seen in crisp set QCA or fuzzy scores which can range anywhere between 0 and 1. The main advantage of using fuzzy set QCA (fsQCA) is that you can capture differences in the degree of membership in a set allowing for a more finely grained analysis. For example, instead of having to determine whether a condition is ‘in’ or ‘out’ of a set, you can assign a SMV on a scale. As SMV scores that approach 0 indicate that as the condition is increasingly out of the set and scores approaching 1 indicate that the conditions is increasingly in the set.

Frequency and consistency thresholds are chosen and the truth table is minimized using Boolean algebra to simplify the configurations and identify patterns of association between configurations of conditions and the outcome of interest. The resulting solution presents one or more configurations that are consistently associated with the outcome. This is known as the sufficiency solution.

QCA uses set theory to conceptualize the association between conditions and outcomes based on sufficiency and necessity. Sufficiency is indicated when a configuration/condition,  $x$ , is consistently a subset of the outcome,  $y$  (i.e., when all cases with a particular configuration display the outcome) or when  $x < y$ . Necessity is indicated when a configuration/condition is a superset of the outcome (i.e., when the outcome always includes the configuration/conditions) or when  $x > y$ . Of course, it is highly unlikely to have perfect subsets or supersets in the social world, so two measurements, consistency and coverage, are calculated in order to estimate the “fit” of the relationship. Consistency serves to indicate the empirical strength of set relation and coverage signifies the empirical relevance of the configuration/condition. (Greckhamer et al., 2018). A more detailed discussion on sufficiency and consistency is provided in section 5.7.

## 5.2 Data and Methods

In order to investigate the influence of WoB on gender diversity below the board from a configurational perspective, I identified a number of variables, or conditions as they are known in a QCA analysis, that could be influencing gender diversity in the executive levels. Guided by the theoretical framework developed in Chapter 3, I selected five explanatory “conditions” that have been shown to have more influence in board processes and decisions. The following are the five conditions included in this study:

1. A critical mass of women board members (WOB)
2. Presence of female Executive Directors<sup>1</sup> (ED)
3. Presence of a female Senior Independent Directors or Board Chair (SRBRD)
4. Number of female committee chairs (COMM)

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<sup>1</sup> Executive Directors include the CEO position

5. Female board Interlinks - total number of public boards served by female board members (INTER)

### **5.2.1 Percentage of WoB (WOB)**

Guided by the dominant theoretical perspective, critical mass theory, the primary condition is the presence of a critical mass of women board members (WOB). Critical mass theory suggests that until a minority group reaches critical mass their influence will be curtailed, therefore, women board members ability and success in advancing gender diversity initiatives and outcomes should be improved as their numbers increase. While the research on the influence of a critical mass of WoB has been ambiguous, an analysis of how a critical mass combines with other aspects of women directors may provide useful insights.

### **5.2.2 Presence of Female EDs (ED)**

Corporate governance research as well as regulators have recognized the disproportionate levels of power executive directors (EDs) have given their asymmetric control of organizational information and resources and the structural power delegated to them by the board. While this certainly applies to the CEO, post Enron and GFC, the profile and standing of the CFO has increased. Therefore the second condition will be the presence of an ED which in the UK is most often the CEO and the CFO. While one could argue that the analysis should treat these roles separately, it was not possible given the very low numbers of female CEOs (7 in this data set) because a condition representing the presence of a female CEO would be highly skewed and distort the analysis.

### **5.2.3 Presence of a Female in a Senior Board Role (SRBD)**

Other research suggests that certain board positions exert more power and have been shown to have more influence in board activities and decisions. Board Chairs (who are non-executives) exert the most influence in monitoring and

control functions (McNulty et al., 2011) but Senior Independent Board (SIDs) directors have also been shown to influence board monitoring, reduce CEO entrenchment and companies with a lead director were more likely to remove underperforming CEOs (Chen and Ma, 2017; Rajkovic, 2020). Therefore the third condition is the presence of a female in a senior non-executive board role. Once again, given the low numbers of female Board Chair (8 in this data set), a condition representing the presence of a female Chair would be highly skewed and distort the analysis, therefore the condition combined the presence of a female Board chair and/or a female SID into a single senior non-executive board member condition (SRBRD).

#### **5.2.4 Number of Female Committee Chairs (COMM)**

A fourth condition represents the presence of a female committee chair. Research has shown that chairing a committee can be an important source of power and influence (Pettigrew and McNulty, 1995) and this applies to female chairs as well. For example, (Cook, Ingersoll and Glass, 2018) found that it was female committee chairs, not the numbers of women on the committee, that influenced executive gender wage gaps. This condition measured the presence of women in the role of committee chair on one of the three mandatory board committees (Audit, Nomination and Remuneration). While boards often have other committees depending on industry, size and geography, FTSE companies are all required to have audit, nomination and remuneration committees.

#### **5.2.5 Female Board Interlinks - Total Number of Public Boards Served by Female Board Members (INTER)**

Finally, based on research showing enhanced status for directors who sit on multiple boards in general and for women specifically, a condition measuring the total number of female board interlinks rounds out the five conditions that could be expected to influence higher levels of gender diversity below the board. Following others, I used the number of interlinks as a proxy for the higher status of women board members with multiple directorships (He and Huang, 2011).

### **5.2.6 Outcome of Interest – 30% or More Senior Executive Women (SRMGR)**

The outcome of interest is having a better gender balance in the executive levels. I adopted the definition for senior executive women used by the Hampton Alexander Review which is the two layers below the board and includes the Executive Committee (EXCO) and their direct reports. Women in these two levels averaged just over 30% in my data set. I therefore chose 30% or more to represent better than average gender balance for my outcome of interest.

### **5.3 Data & Methods**

A database was assembled with details on the conditions described above for FTSE 100 companies. Data was obtained from two different data sources. Information for board roles was found on BoardEx as of August 6, 2020 and data for women in senior executive management was found in the 2020 Hampton Alexander Report which reported on the percentage of women in senior executive management as of October 31, 2020. Two companies did not have/disclose any Executive Directors on Boardex, one did not have/disclose any committee information and the fourth was an investment trust and excluded as they have no employees to report<sup>2</sup>. The final data set included 96 companies in the FTSE 100.

### **5.4 QCA Analysis**

In order to proceed with a fuzzy set qualitative comparative analysis (fsQCA), there are a number of steps which I will outline below. I used the fsQCA software (Ragin and Davey, 2017) for the sufficiency analysis as well the Necessity Condition Analysis in R (R Core Team, 2022) for the necessity analysis.

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<sup>2</sup> Companies Excluded: Antofagasta PLC, Fresnillo PLC, Just Eat Takeaway.com NV and Scottish Mortgage Investment Trust.

### **5.4.1 Step 1 - Calibration**

In order to proceed with a fuzzy set QCA analysis, values in the conditions need to be assigned a fuzzy membership score or set membership value (SMV) through the process of calibration. Calibration is the process where raw numerical data is transformed into SMVs between 0 and 1. I used both the indirect and direct method to calibrate the five conditions (Meuer, Rupiotta and Backes-Gellner, 2015). For variables with continuous quantitative data I used the direct method of calibration in the fsQCA software (Ragin and Davey, 2016) to assign a SMV using three qualitative anchors: fully in, the crossover point (the point of maximum ambiguity) and fully out (Fiss, 2011; Ragin, 2008). This applied to both the explanatory condition of a critical mass of WoB and the outcome, the percentage of women in the executive level.

Theoretical and practical knowledge assists in identifying these qualitative anchors. For my primary condition, the percentage of WoB, I returned the literature on critical mass to identify a threshold where critical mass is expected to take effect and take a token or skewed group to a minority or tilted group, a point at which the numerical minority is mitigated, the presence of the minority group is normalized and more fulsome participation is realized. Existing research pegs critical mass anywhere between 25% to 33% or at least three (Bilimoria, 2006; Ely, 1995; Kanter, 1977b; Konrad, Kramer and Erkut, 2008). Given the average size of corporate boards is close to 10, I chose 30% to be the crossover point for critical mass and to represent the point of maximum ambiguity. This means that percentages below 30% are increasingly less in the set of critical mass and values above 30% are increasingly more in the set of critical mass. 50% was chosen to represent full membership, meaning there is equal representation of men and women, while 0% represents full non-membership, where there are no women board members. These qualitative anchors were used to calibrate the critical mass of women on the board (WOB). For the percentage of females in executive management (SRMGR), I had already defined better gender balance to be 30% or more and so the calibration for the outcome variable was similar to the WoB condition (30% cross over, 50% fully in and 0 % fully out).

I used the indirect method to calibrate the four remaining conditions. This method relies on substantive knowledge to group cases according to the degree of membership in the defined sets. For both the Senior Board (SRB) and Executive Director (ED) condition, I assigned a SMV of 1 if a female Board Chair or CEO was present and a SMV of .66 if a female SID or other Executive Director (i.e., CFO) was present and a SMV of 0 when no females were present in either role.

Similar to other studies, I used the number of board interlinks as a proxy for influential woman board members on the basis that women board members with experience on multiple boards are legitimized in the boardroom and better able to influence board decisions and can do so even in the absence of a critical mass of female board members (Cook and Glass, 2015a; Glass and Cook, 2018). The condition for a female interlinked board (INTER) was calculated by taking the total number of public board directorships held by all women board members. The average number of non-executive women board members for FTSE 100 companies was 3.4. For boards where the total number of women board members held less than a total of three directorships a SMV of 0 was assigned indicating the board was not a female interlinked board. For total directorships of 3-5, a SMV of .33 was assigned representing that these cases were more out than in the set of an interlinked board. For total female directorships between 6 and 9 a SMV of .66 was assigned indicating these boards were more in than out of the set and a SMV of 1 was assigned to cases where the total female directorships were 10 or more representing a highly female interlinked board.

Finally, for the set of female committee chairs (COMM), 0 was assigned if there were none, .66 if there was one female committee chair and 1 if there were 2 or more female committee chairs. Table 10 below summarizes the fuzzy set calibrations for both the direct and indirect methods discussed above.

**Table 10: Fuzzy Set Membership Calibration and Descriptive Statistics**

Fuzzy Set Calibrations					Descriptive Statistics for calibrated conditions					
Direct Calibration		Fully in	Cross Over (point of maximum ambiguity)	Fully Out	Mean	SD	Min	Max	Cases	
fWOB	critical mass Women on Boards	0.50	0.30	0.00	0.65	0.20	0.27	0.98	96	
fSRMGR	critical mass of senior executives	0.50	0.30	0.00	0.54	0.20	0.13	0.97	96	
Indirect Calibration		Fully In	Mostly in	Mostly Out	Fully Out					
		1.00	0.66	0.33	0.00					
fED	presence of female ED's	presence of a female CEO	presence of female ED (not CEO)	-	no female ED's	0.22	0.35	0.00	1.00	96
fCOMM	presence of female committee chairs	2 female chairs	1 female chairs	-	no female committee chairs	0.54	0.34	0.00	1.00	96
fINTER	female interlinked board	female board members hold 10+ public boards directorships	female board members hold 6-9 public boards directorships	female board members hold 3-5 public boards directorships	female board members hold <2 public boards directorships	0.65	0.27	0.00	1.00	96
fSRB	SID or Board chair	presence of female board chair or female board chair and female SID	presence of female SID	-	no female SID or Board Chair	0.23	0.36	0.00	1.00	96

Conditions fED and fSRB are moderately skewed and this is due to the fact that of the 97 cases in the sample, 28 have female Executive Directors and 30 have female SID's and/or Board Chairs. These positions are included in the analysis based on their theoretical and practical importance.

*As noted by (Ragin, 2008) fuzzy set membership scores of .5 are difficult to analyse and should be avoided. (Fiss, 2011) offers a remedy to this problem and suggests adding a constant of .001 to each causal condition below 1. This small adjustment to membership scores does not impact the results but does ensure that all cases are included in the analysis.*

### 5.5 Step 2: Necessity Analysis

Necessary conditions are those conditions that allows the outcome to occur but may not be sufficient for it to happen without other supporting or complementary conditions. Identifying necessary conditions is recommended as a first step, the results of which can then be used to inform the sufficiency analysis (Schneider and Wagemann, 2010, Greckhamer, 2016). If a condition is identified as being necessary, this information can be used to reduce logical remainders in the truth table minimization process which in turn reduces the use of counterfactuals so the resulting sufficiency solutions relies more on empirical observations.

Table 11 shows the results of a necessity analysis of the individual causal conditions and their negation (the absence of the condition) for both the presence and absence of a 30% or more executive women (Ragin, 2006). In determining whether a condition is necessary, it is recommended to use a high consistency threshold of at least .90 to ensure that the condition is almost always present when the outcome occurs (Greckhamer et al., 2018). Consistency measurements are used to determine the degree to which the subset relationship is true.

Using the recommended consistency threshold of .9, the necessity analysis suggests that the presence of WoB is a necessary condition (consistency of .91) for the outcome and the absence of women in executive director positions is necessary for the absence of the outcome (consistency of .94).

**Table 11: Necessary analysis for the presence and absence of a 30% or more women in executive levels**

**Analysis of Necessary Conditions**

Causal Condition	30% or more Exec Women		~ 30% or more Exec Women	
	Consistency	Coverage	Consistency	Coverage
<b>fWOB</b>	<b>0.91</b>	0.76	0.89	0.63
~fWOB30	0.56	0.86	0.62	0.78
<b>fED</b>	0.33	0.82	0.21	0.44
~fED	0.77	0.53	<b>0.94</b>	0.53
<b>fSRBOARD</b>	0.30	0.70	0.29	0.57
~fSRB	0.81	0.57	0.84	0.49
<b>fCHAIR</b>	0.70	0.69	0.75	0.63
~fCHAIR	0.63	0.75	0.61	0.59
<b>fINTER</b>	0.84	0.69	0.88	0.62
~fINTER	0.54	0.84	0.53	0.67

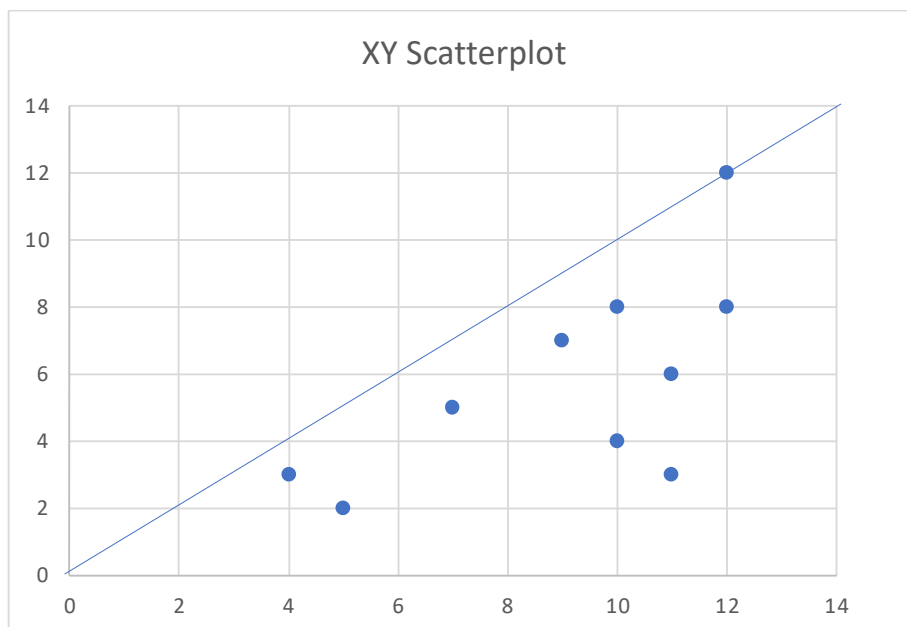
where ~ indicates negation

Identifying a condition as necessary means that the outcome cannot occur without it and the no other compensating conditions can make up for its absence

(Dul, 2016a). However, when I conducted the truth table analysis, one of the configurations included the absence of a critical mass of WoB which directly conflicted with the necessity analysis. Therefore, in order to resolve that conflict, I turned to another software program to conduct a more nuanced necessity analysis.

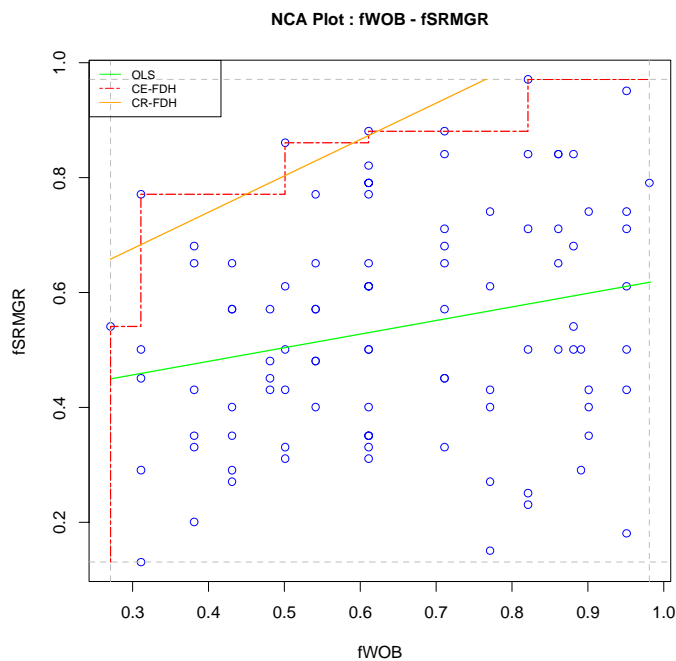
I conducted a second necessity analysis using NCA software in the R package for QCA (R Core Team, 2022). In logical terms, necessity means that the outcome is a subset of the condition, or  $x > y$ , where  $x$  represents the condition and  $y$  represents the outcome. Therefore an xy plot of the necessity relationship should show all (or mostly all) points under the diagonal line as illustrated in the perfect necessity relationship in Figure 13 below.

**Figure 14- Perfect Necessity Relationship**



The xy plot of the NCA in R is shown in Figure 14 below. It plots the relationship between the causal condition, the proportion of WoB (fWOB) against the outcome, the proportion of women executives (fSRMGR).

**Figure 15 - NCA and Bottleneck Table: fWOB**



Bottleneck Table	
FSRMGR	fWOB
0	NN
10	NN
20	NN
30	NN
40	NN
50	NN
60	NN
70	13.5
80	32.2
90	50.9
100	69.7

Effect size ( $d$ ) = .13

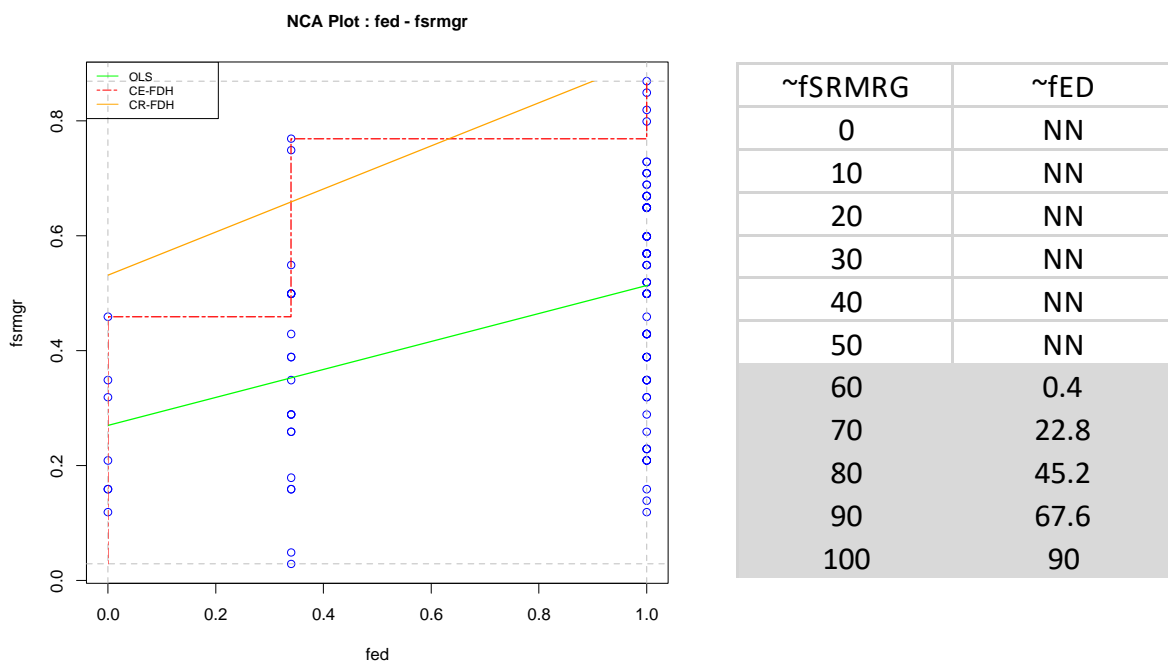
- $0 < d < 0.1$  small effect
- $0.1 \leq d < 0.3$  medium effect
- $0.3 \leq d < 0.5$  large effect
- $d \geq 0.5$  very large effect

The NCA analysis draws a ceiling line above all observed cases and calculates an effect size. The effect size measures the empty space in the upper left corner of the scatter plot and the effect size will increase as the ceiling line lowers and approaches the “perfect” necessity relationship in Figure 13 above. The effect size for this relationship is .13, indicating a small to medium effect. The bottleneck analysis clarifies how the necessity relationship is operating in the data and identifies at which level the condition will become a constraint or bottleneck on the outcome (Dul, 2016b). The bottleneck table shows that a critical mass of WoB is only a constraint (or a necessary condition) for increasing gender balance in the executive levels at higher levels of female executives. (i.e. an SMV of .7 or

36% of female executives). This represents only 25% of the dataset and therefore I am reluctant to characterize the WoB condition as a necessary one.

While I will not be considering the relationship for the absence of female executive directors on the absence of a 30% or more female executives (i.e. < 30% female executives), for completeness, I performed a similar necessity analysis the results of which shown in Figure 15 below.

**Figure 16 - NCA and Bottleneck Table: ~fED**



Effect size ( $d$ ) = .181

- $0 < d < 0.1$  small effect
- $0.1 \leq d < 0.3$  medium effect
- $0.3 \leq d < 0.5$  large effect
- $d \geq 0.5$  very large effect

The effect size on the absence of the presence of an ED on the absence of 30% or more women executives can be considered medium. The NCA plot shows a slightly lower ceiling line than in the NCA plot for WoB in Figure 14 above, however the bottleneck analysis shows that this operates for very low levels of

women executives (an SMV of  $<.4$  or where women executives are less than 25%). That is, an absence of female executive directors is a necessary condition for low levels of women in senior executive levels.

### **5.5.1 Step 3: Sufficiency Analysis**

After the necessity analysis, we can move onto the sufficiency analysis. The calibrated data is used to construct a truth table which consists of  $2^k$  rows where  $k$  is the number of causal conditions. In this study there were five causal conditions indicating there are 32 logically possible configurations. In determining the truth table, the fuzzy set membership scores for each condition are transformed into crisp sets (1 or 0) depending on whether it has a fuzzy set membership score of greater or less than .5. and then is assigned to a truth table row.

The truth table in Table 12 below shows that there are 20 empirically observed configurations leaving 12 possible configurations unobserved. These twelve rows are called logical remainders and represent the limited diversity in the data set. In social science research it is rare to have a fully saturated truth table. These unobserved configurations, however, are also considered in the analysis. This will be discussed further below.

**Table 12: Truth Table with 2k Possible Configurations and Empirical Distribution of Cases**

fED	fSRB	fCOMM	fINTER	fWOB30	cases	raw consist.	PRI consist.	SYM consist.
0	0	1	1	1	16	0.829199	0.376097	0.440532
0	1	1	1	1	10	0.887013	0.686474	0.696739
1	1	1	1	1	9	0.895283	0.77785	0.9608
0	0	0	1	1	8	0.92564	0.569938	0.587835
0	0	1	1	0	7	0.915341	0.5259	0.5259
0	0	1	0	1	7	0.923399	0.628065	0.632554
1	0	1	1	1	7	0.925188	0.840758	0.861202
0	0	1	0	0	5	0.907544	0.510105	0.534067
1	0	0	0	1	5	0.972257	0.929984	0.955691
0	0	0	1	0	4	0.971368	0.742362	0.780722
0	1	1	1	0	3	0.878769	0.316822	0.330954
1	0	1	0	1	3	0.898298	0.739651	0.759933
0	1	1	0	0	2	0.890097	0.40808	0.486161
1	1	1	0	1	2	0.90495	0.659172	1
1	0	0	1	1	2	0.985093	0.952902	0.952902
0	1	0	1	1	2	0.970139	0.859703	0.864512
0	0	0	0	0	1	0.975022	0.691897	0.691896
0	1	0	0	0	1	0.923765	0.487479	0.487479
0	0	0	0	1	1	0.97177	0.703188	0.703188
0	1	1	0	1	1	0.966328	0.762264	0.762264
1	0	0	0	0	0			
1	1	0	0	0	0			
1	0	1	0	0	0			
1	1	1	0	0	0			
1	0	0	1	0	0			
0	1	0	1	0	0			
1	1	0	1	0	0			
1	0	1	1	0	0			
1	1	1	1	0	0			
0	1	0	0	1	0			
1	1	0	0	1	0			
1	1	0	1	1	0			

The next step in the analysis is to apply minimum consistency and frequency thresholds. Applying a minimum consistency threshold ensures that the configuration consistently, or almost always, leads to the outcome. The outcome for configurations at or above the minimum consistency threshold are assigned a 1 which signifies that the configuration leads to the outcome most of the time. Those configurations whose consistencies are less than the threshold are assigned a 0 representing considerable inconsistency in leading to the outcome.

For consistency, I chose the recommended threshold of .8 and a PRI consistency of .65 to determine the final configurations to be analyzed (Greckhamer, 2016). For frequency, I chose a minimum frequency of two to eliminate any “one off”

cases. These unique cases were therefore not included in the analysis. Table 13 below shows the truth table that will be undergo a logical minimization process to identify configurations that are associated with the outcome of interest.

**Table 13: fsQCA Truth Table Output**

fED	fSRB	fCOMM	fINTER	fWOB30	# of cases	fSRMGR30	raw consist.	PRI consist.	SYM consist
0	0	1	1	1	16	0	0.829199	0.376097	0.440532
0	1	1	1	1	10	1	0.887013	0.686474	0.696739
1	1	1	1	1	9	1	0.895283	0.77785	0.9608
0	0	0	1	1	8	0	0.92564	0.569938	0.587835
0	0	1	0	1	7	0	0.923399	0.628065	0.632554
0	0	1	1	0	7	0	0.915341	0.5259	0.5259
1	0	1	1	1	7	1	0.925188	0.840758	0.861202
0	0	1	0	0	5	0	0.907544	0.510105	0.534067
1	0	0	0	1	5	1	0.972257	0.929984	0.955691
0	0	0	1	0	4	1	0.971368	0.742362	0.780722
0	1	1	1	0	3	0	0.878769	0.316822	0.330954
1	0	1	0	1	3	1	0.898298	0.739651	0.759933
0	1	0	1	1	2	1	0.970139	0.859703	0.864512
0	1	1	0	0	2	0	0.890097	0.40808	0.486161
1	0	0	1	1	2	1	0.985093	0.952902	0.952902
1	1	1	0	1	2	1	0.90495	0.659172	1

frequency cutoff: 2  
consistency threshold: .8  
PRI consistency threshold: .65

Table 14 below provides a more comprehensive view of each of the truth table rows. It shows all logical possible configurations, those that were empirically observed, the actual number of cases observed in each configuration as well as the proportion of the cases that display the outcome versus those that do not. Each row coded with a 1 in column fSRMGR means that it met the consistency threshold of .8 (see truth table in Table 13 for consistency scores), while 0 indicates the cases in these rows were inconsistent in their association with the outcome. I also show the rows that were excluded because they were below the frequency threshold of 2, that is only 1 instance of the configuration was observed. Configurations C1, C2 and C3, which are highlighted, are those that appear in sufficiency solution which is presented in the next section.

**Table 14 - Truth Table Configurations**

ROW	fED	fSRB	fCOMM	fINTER	fWOB30	cases	# with critical mass of senior manager	%	# without critical mass of senior manager	%	fSRMGR	Configuration in Sufficiency Solution
1	0	0	1	1	1	16	4	25%	12	75%	0	NOT CONSISTENTLY SUFFICIENT
2	0	1	1	1	1	10	6	60%	4	40%	1	CONSISTENTLY SUFFICIENT C2
3	1	1	1	1	1	9	8	89%	1	11%	1	CONSISTENTLY SUFFICIENT C1, C2
4	0	0	0	1	1	8	3	38%	5	63%	0	NOT CONSISTENTLY SUFFICIENT
5	0	0	1	1	0	7	2	29%	5	71%	0	NOT CONSISTENTLY SUFFICIENT
6	0	0	1	0	1	7	4	57%	3	43%	0	NOT CONSISTENTLY SUFFICIENT
7	1	0	1	1	1	7	5	71%	2	29%	1	CONSISTENTLY SUFFICIENT C1
8	0	0	1	0	0	5	2	40%	3	60%	0	NOT CONSISTENTLY SUFFICIENT
9	1	0	0	0	1	5	5	100%	0	0%	1	CONSISTENTLY SUFFICIENT C1
10	0	0	0	1	0	4	3	75%	1	25%	1	CONSISTENTLY SUFFICIENT C3
11	0	1	1	1	0	3	0	0%	3	100%	0	NOT CONSISTENTLY SUFFICIENT
12	1	0	1	0	1	3	3	100%	1	33%	1	CONSISTENTLY SUFFICIENT C1
13	0	1	1	0	0	2	1	50%	1	50%	0	NOT CONSISTENTLY SUFFICIENT
14	1	1	1	0	1	2	2	100%	0	0%	1	CONSISTENTLY SUFFICIENT C1
15	1	0	0	1	1	2	2	100%	0	0%	1	CONSISTENTLY SUFFICIENT C1
16	0	1	0	1	1	2	2	100%	0	0%	1	CONSISTENTLY SUFFICIENT C2
17	0	0	0	0	0	1						BELOW FREQUENCY THRESHOLD
18	0	1	0	0	0	1						BELOW FREQUENCY THRESHOLD
19	0	0	0	0	1	1						BELOW FREQUENCY THRESHOLD
20	0	1	1	0	1	1						BELOW FREQUENCY THRESHOLD
21	1	0	0	0	0	0						LOGICAL REMAINDERS - NO EMPIRICAL CASES
22	1	1	0	0	0	0						LOGICAL REMAINDERS - NO EMPIRICAL CASES
23	1	0	1	0	0	0						LOGICAL REMAINDERS - NO EMPIRICAL CASES
24	1	1	1	0	0	0						LOGICAL REMAINDERS - NO EMPIRICAL CASES
25	1	0	0	1	0	0						LOGICAL REMAINDERS - NO EMPIRICAL CASES
26	0	1	0	1	0	0						LOGICAL REMAINDERS - NO EMPIRICAL CASES
27	1	1	0	1	0	0						LOGICAL REMAINDERS - NO EMPIRICAL CASES
28	1	0	1	1	0	0						LOGICAL REMAINDERS - NO EMPIRICAL CASES
29	1	1	1	1	0	0						LOGICAL REMAINDERS - NO EMPIRICAL CASES
30	0	1	0	0	1	0						LOGICAL REMAINDERS - NO EMPIRICAL CASES
31	1	1	0	0	1	0						LOGICAL REMAINDERS - NO EMPIRICAL CASES
32	1	1	0	1	1	0						LOGICAL REMAINDERS - NO EMPIRICAL CASES

\*Adapted from (Dwivedi, Joshi and Misangyi, 2018)

Boolean algebra is now employed to reduce or minimize the truth table to simplified configurations. Three different solutions, the complex, the parsimonious and the intermediate are produced by the software and differ in their use of simplifying assumptions on the logical remainders (unobserved configurations). The complex solution is based solely on the empirical evidence and is usually quite complex. The parsimonious solution reduces the configurations to the smallest number of conditions possible using all simplifying assumptions, that is, both easy counterfactuals (using assumptions that are consistent with theoretical knowledge or case knowledge) and difficult counterfactuals (assumptions that may override theoretical knowledge but not the empirical evidence). As a result, the solution provided by the parsimonious solution is considered to indicate core conditions. The intermediate solution on

the other hand uses only the easy counterfactuals, or directional expectations. Incorporating assumptions around the logical remainders allows for a more generative approach by incorporating plausible conditions that are based on theory and logic but that have not been empirically observed (Soda and Furnari, 2012). Therefore the immediate solution includes the core conditions generated in the parsimonious solutions as well as peripheral or supporting conditions based on theory (Greckhamer et al., 2018).

### 5.5.2 Minimized Solution

The sufficiency solutions identified with the fsQCA are presented in Table 15 below using the notation developed by (Ragin and Fiss, 2008) . I chose the intermediate solution for interpretation and distinguish between core conditions which are indicated by a large “●” and the absence of a condition is indicated by a large “o”. Contributing conditions are represented by small “●” (presence) and small “o” (absence). Blank spaces indicate that a condition may be present or absent, meaning that their presence or absence is not affecting the outcome.

It is also customary to present the solution with its logical operators which can be found below.

$$fWOB*ED + fWOB* fSRB*fINTER + \sim fWOB30*\sim fCOMM*fINTER \Rightarrow fSRMGR$$

**Note:** *logical AND is denoted by \**

*logical OR by +*

*logical negation by ~*

*sufficiency is indicated by  $\Rightarrow$*

## **5.6 The Sufficiency Solution**

The QCA solution reveals three equifinal board configurations of women board members that are associated with 30% or more women in the senior executive levels. There are no single conditions associated with production of the outcome, rather a combination of complementary conditions. This provides some support for my configurational approach. The absence of a critical mass of WoB in one of the configurations confirms what the NCA showed, that it is not a necessary condition in generating 30% or more women in senior executive levels. The findings offer confirmation that it is the confluence of female directors in their numbers, power and status that matter for increasing gender diversity below the board and provides insight on when the trickle-down effect is observed. The overall solution has consistency score of .89 and a coverage score of .77 which means that companies with one of these board configurations had 30% or more female executives 89% of the time and boards with one of these configurations explain 77% of companies with 30% or more executive women.

**Table 15: Sufficiency Solution**

<b>Configurations for Achieving at least 30% Female Executives</b>			
<b>Causal Conditions</b>	<b>Gender Diversity Solution</b>		
	<b>C1</b>	<b>C2</b>	<b>C3</b>
<b>critical mass of WOB</b>	●	●	○
<b>Female ED's</b>	●		
<b>Female Committee Chairs</b>			○
<b>interlinked Board</b>		●	●
<b>Female SID or Board Chair</b>		●	
Consistency	0.86	0.86	0.97
Raw Coverage	0.32	0.28	0.43
Unique Coverage	0.16	0.09	0.28
Number of companies	28	21	4
<b>Overall Solution Coverage</b>	<b>0.77</b>		
<b>Overall Solution Consistency</b>	<b>0.89</b>		
<b>Total Number of Companies</b>	<b>44</b>		

Central conditions are denoted by ● (presence) and ○ (absence). Contributing conditions by ● (presence) and ○ (absence). Blank spaces indicate "doesn't matter" meaning that condition can be either be present or absent

Analysis Thresholds: Raw consistency =.8, PRI consistency =.65, Case/configuration frequency = 2 (96% of sample)

The presence of three board configurations of WoB indicate that there are multiple ways that the presence of WoB can influence gender diversity below the board. Importantly, in each of the configurations, women directors have either power or status and a critical mass of female directors is not always necessary.

Configuration C1 shows that a woman in an executive director role and a critical mass of WoB is associated with a 30% or more women in executive levels. This aligns with other research that has found that a gender diverse board and a female CEO improves firm performance (Cook and Glass, 2015a). In my

analysis, all 28 companies with a female ED are covered by this configuration and all but three are associated with a 30% or more women in executive levels. Importantly all cases with a female CEO generated the outcome.

The second configuration includes the presence of a female director in a senior non-executive board role, either as Chair or SID (or both), and with a critical mass of WoB who have a relatively high number of board interlinks. Different than the first configuration that covered all cases of female EDs, this configuration covers 21 of the 30 companies that have either a female Chair or SID and 16 of these prototypical cases have 30% or more women in executive levels.

The third configuration represents a fairly male dominated board. The female directors in this configuration are highly experienced with a number of board directorships but they do not represent a critical mass and none have the additional responsibility of chairing any of the board three committees. There are four prototypical cases where female representation on the board has not yet reached a critical mass and women directors have not been appointed to more powerful roles but the outcome was present. This configuration included female directors who sit on other plc boards. Research has shown that board interlinks can enhance social status and influence on the board (Hillman, Shropshire and Cannella, 2007; Öberg, 2021) and the presence of interlinked female directors in this male dominated configuration may indicate that they are catalysts to improving gender balance on boards and for the appointment of women directors to more powerful board roles which can then activate a trickle-down effect.

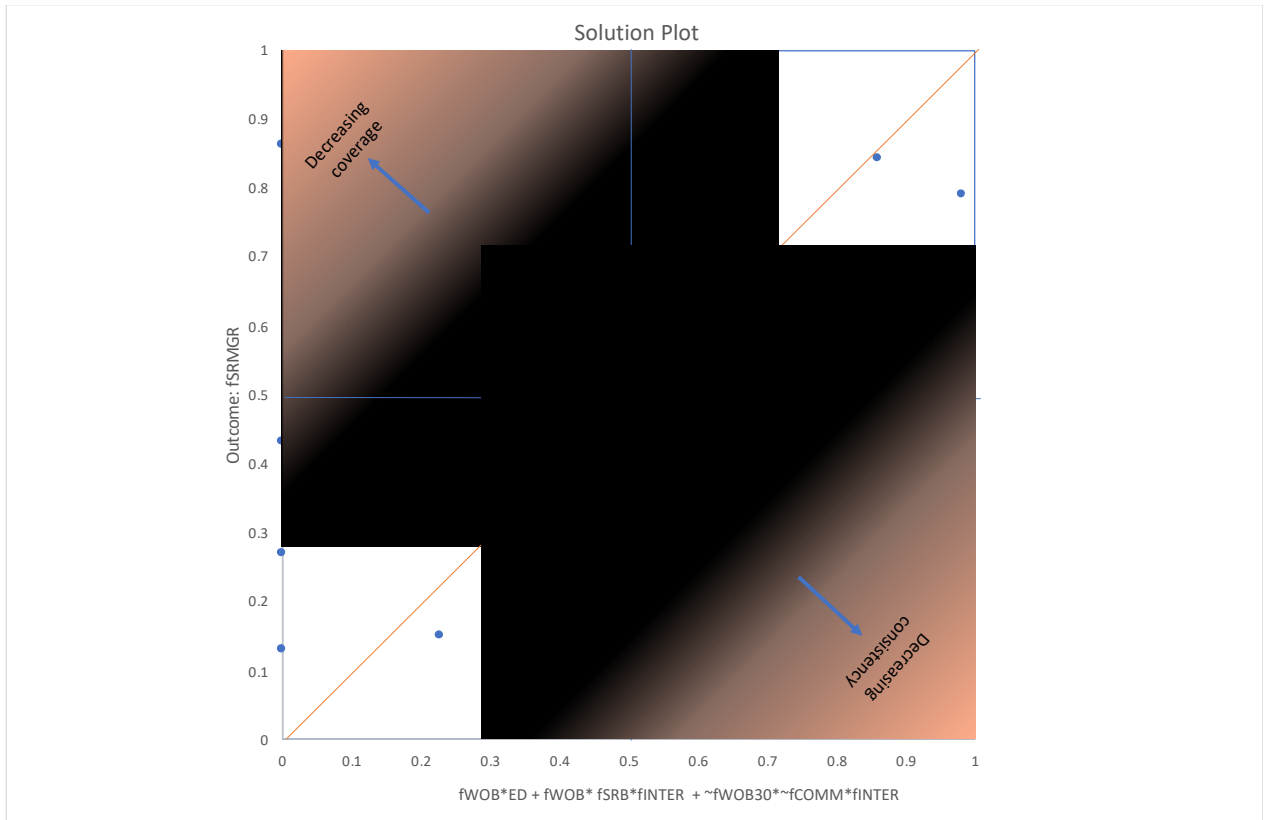
## **5.7 Consistency and Coverage**

Consistent and coverage are the two parameters of fit reported in a QCA analysis. Consistency represents the empirical strength of the solution and coverage signifies the empirical relevance of the solution. The consistency scores indicate the degree to which membership in the set of the causal configuration is a consistent subset of membership in the outcome which indicates sufficiency in set theory (Ragin, 2008), or where  $x \leq y$ . This QCA consistency score of .89 may

be interpreted to mean that configurations in the solution are found to be sufficient 89% of the time in producing the outcome. The coverage score is an indication of how much of the outcome is explained by the solution (Schneider and Wagemann, 2010). Therefore the coverage score of .77 may be interpreted to mean that configurations in the solution provide an explanation for 77% of the cases where there is 30% or more women in the senior executive levels.

Figure 16 below plots all 97 cases used in the analysis as they are used to calculate the coverage and consistency of the solution. The diagonal line separates the chart into two halves and cases in the upper triangle are in agreement with the sufficiency solution where the calibrated membership scores are less than or equal to the scores of the outcome (i.e.  $x \leq y$ ). The 44 prototypical cases in the solution appear in the right half of the graph as these cases all have a SMV of .5 in the QCA solution. The chart also highlights the areas where deviant cases will affect the coverage and consistency scores. Cases below the diagonal line contradict the sufficiency relationship and therefore are deviant cases for consistency. Cases above the diagonal line and on the left half of the chart are deviant cases for coverage.

**Figure 17: Sufficiency Solution Plot**



### 5.7.1 Consistency Formula

The consistency score is the way in which fsQCA conceptualizes the problem of contradictions in the solution (i.e., deviant cases). The formula below for calculating consistency indicates that coordinates where the x coordinate is high and the y coordinate is low will deteriorate consistency the most.

$$\text{Consistency } (X_i < Y_i) = \frac{\sum_{i=1}^n \min(X_i, Y_i)}{\sum X_i}$$

Where  $X_i$  indicates the SMV of the condition, and

$Y_i$  indicates the SMV of the outcome.

In other words, cases exhibiting high membership scores in the solution but not the outcome (i.e., where x approaches 1 and y approaches 0) will have a more significant impact on reducing consistency than those that are closer to the diagonal line where  $x = y$  where there is a perfectly consistent relationship. Figure 16 above illustrates that a good majority of the cases fall above the diagonal line (or are relatively close to it) meeting the criteria for sufficiency which explains the relatively high consistency of the QCA solution at 89%.

### 5.7.2 Coverage Formula

Similarly, the calculation for coverage calculates the degree of difference between the solution and the outcome. The formula indicates that the coverage will decrease as x decreases and y increases.

$$\text{Coverage } (X_i > Y_i) = \frac{\sum_{i=1}^n \min(X_i, Y_i)}{\sum Y_i}$$

*Where  $X_i$  indicates the SMV of the condition, and*

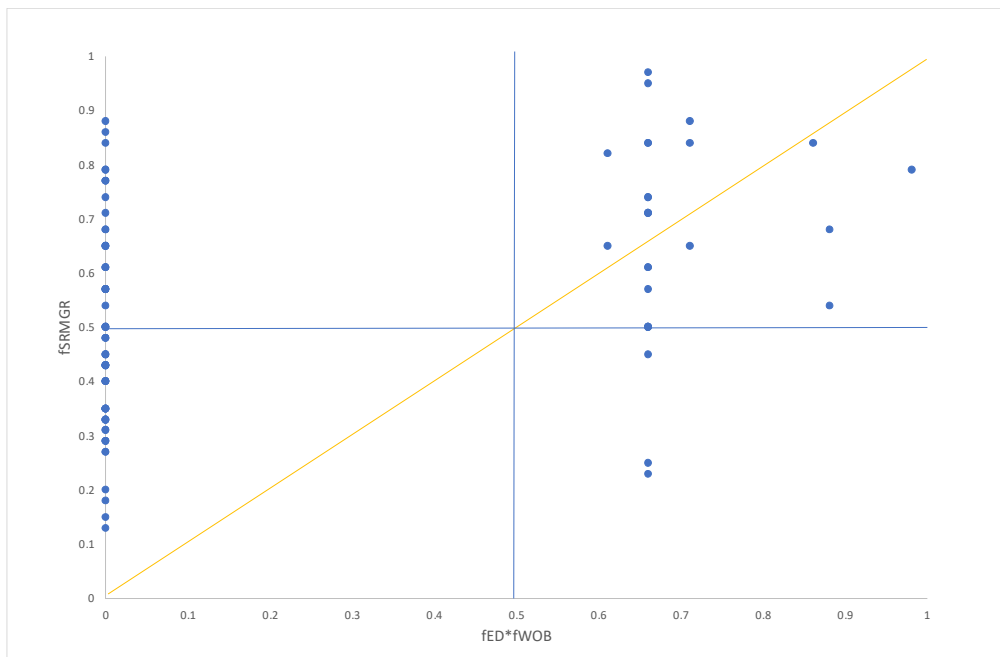
*$Y_i$  indicates the SMV of the outcome*

Coverage is reduced where there is a high membership scores in the outcome and low membership scores in the solution or configuration. The cases appearing upper left portion of the graph (i.e., where x approaches 0, and y approaches 1) deteriorate coverage the most. In Figure 16 above, there are very few cases in the upper left quadrant which is consistent with our high coverage value of .75.

Each of the configurations in the solution also report their own consistency and coverage scores which contribute to the overall consistency and coverage scores. Figures 17, 18 and 19 below, visualize the sufficiency relationship for each of the cases in the three equifinal configurations. The charts plot the cases in each of the configurations, C1, C2 and C3 to visualize how the consistency and coverage scores are affected.

For C1 (fED\*fWOB) and C2 (fSRB\*fINTER\*fWOB) in Figures 17 and 18, both below, we can see that there a number of cases below the diagonal line which will erode consistency (i.e. the SMV of the causal configuration is higher than the outcome) as well as a number of cases where SMV in the causal configuration is 0 which erode coverage. Given that there are limited numbers of cases with a female in the roles of ED or senior non-executive board position (28 and 30 respectively), it is not surprising that coverage is affected

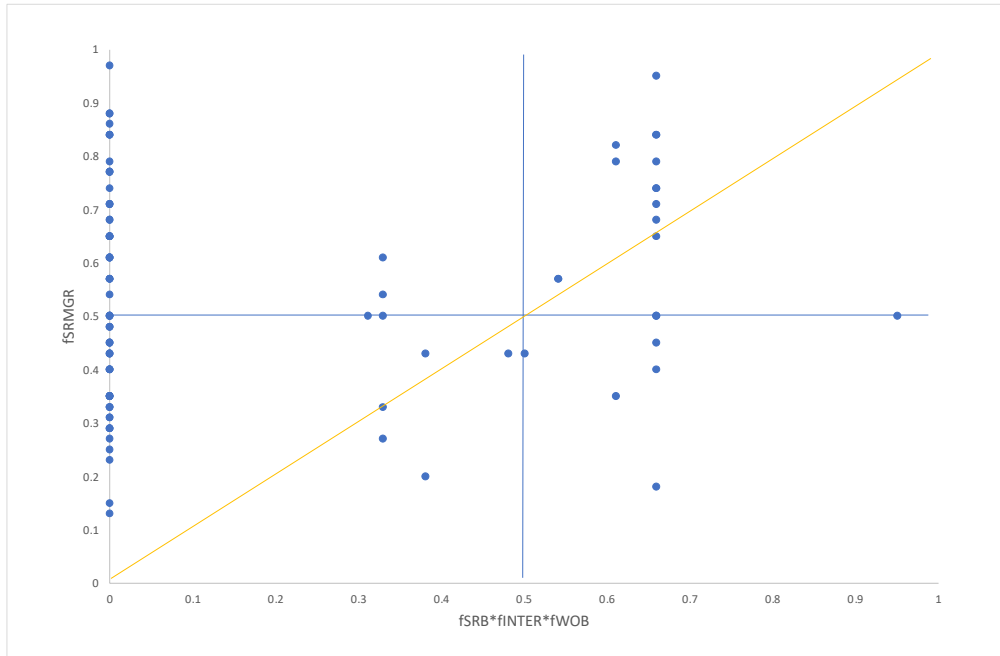
**Figure 18 - Configuration C1: fED\*fWOB**



*Consistency: 0.86*

*Coverage: 0.32*

**Figure 19: Configuration C2: fSRB\*fINTER\*fWOB**



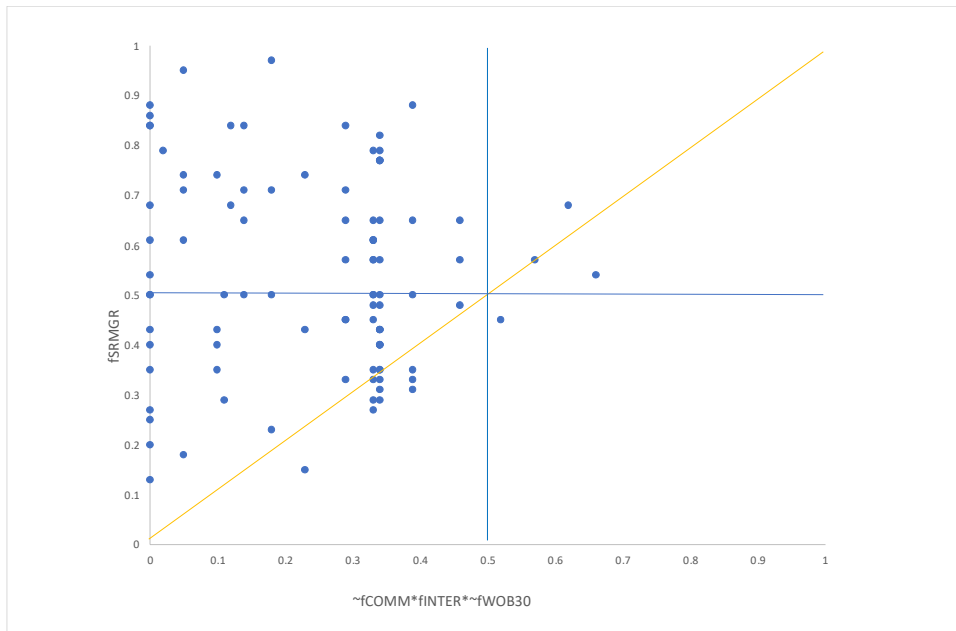
*Consistency: 0.86*

*Coverage: 0.28*

C3 ( $\sim$ fWOB30\* $\sim$ fCOMM\*fINTER) seen in Figure 19 below, on the other hand, has a very strong sufficiency relationship. The chart makes it easy to see why the consistency scores are high as most coordinates are above the diagonal line indicating that most cases have coordinates where  $x \leq y$  and demonstrate the sufficiency relationship. However, only four cases have a membership score greater than .5 and appear in the causal configuration.

As discussed earlier when calculating coverage scores all cases are used. A SMV is calculated on the basis of the C3 configuration for each case. The chart in Figure 19 below shows that most companies have a low membership score in this configuration which is not surprising given that many companies (73) do have a critical mass of WoB and many (72) also have women chairing committees. Further, different than the first two configurations, there are far fewer cases with a SMV of 0 in this causal configuration. As a result the coverage is higher in this configuration than in both C1 and C2.

**Figure 20: Configuration C3:  $\sim$ fWOB30\* $\sim$ fCOMM\*fINTER**



*Consistency: 0.97*

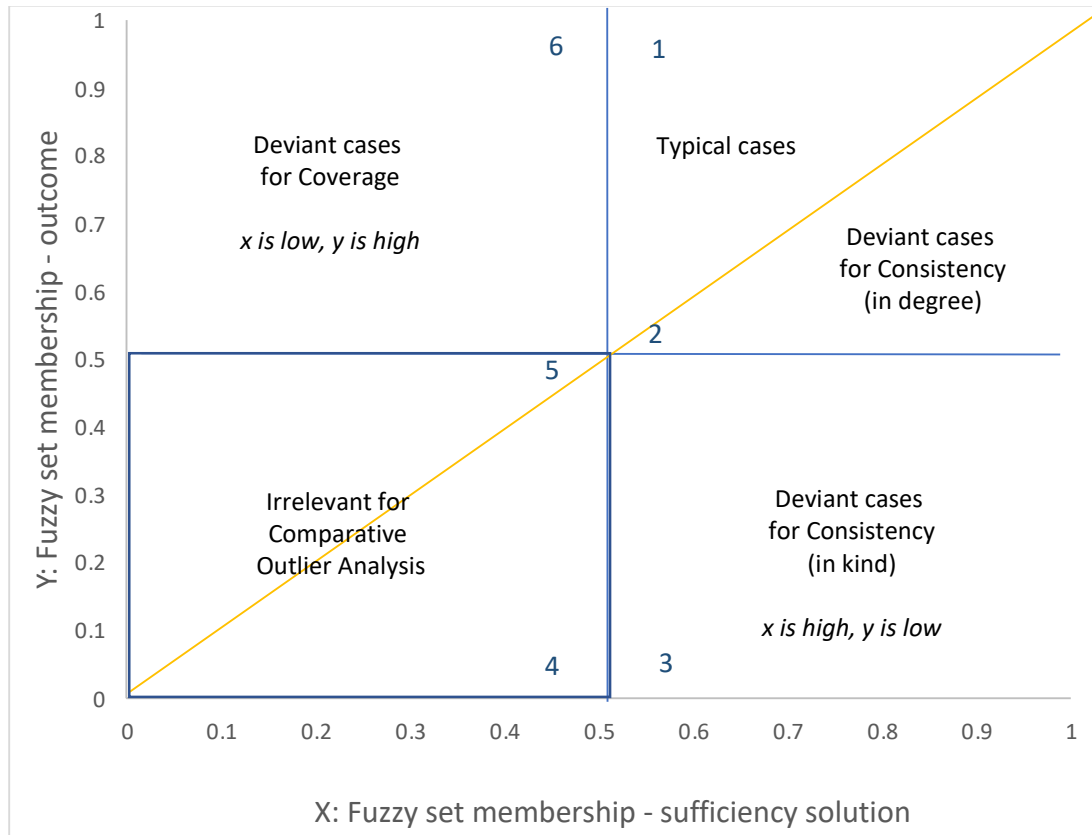
*Coverage: 0.43*

Overall the QCA has provided a relatively consistent and empirically relevant explanation for distinct board configurations that generate the trickle-down effect to senior levels below the board. A key aspect, however, of a QCA is the post solution analysis which is covered in detail in the next section.

## 5.8 Post Solution Analysis

A post solution analysis involves a within and cross case analysis and is key to identifying mechanisms and developing causal arguments. A comparative analysis of typical cases can facilitate the analysis and inference of causal mechanisms while deviant cases can potentially provide insight into missing conditions and enable theory elaboration (Schneider and Rohlfing, 2013). In Figure 20 below the xy plot is divided to show how cases are classified as typical, deviant or irrelevant cases for a post solution analysis.

**Figure 21: Typical and Deviant Cases in Post Solution Analysis**



(adapted from Schneider and Rohlfing,2013)

Cases above the diagonal meet the sufficient relationship where  $x \leq y$  (zones 1, 5 and 6), however, only the cases in zone 1 are considered *typical* cases as they are members of both the QCA solution and the outcome. Cases in this area can be further analyzed to develop causal arguments.

There are three types of deviant cases, each of which can be analyzed to better understand missing conditions and help to elaborate theory. There are two types of deviant cases for consistency. *Deviant cases for consistency in degree* (zone 2) are part of the QCA solution and the outcome but contradict the statement of sufficiency (i.e.  $x \leq y$ ). *Deviant cases in kind* (zone 3) are those that are members of the QCA solution but outcome is not produced. Deviant cases for coverage (zone 6) are those that display the outcome but don't appear in the solution. Analysis of all three types of deviant cases can be used to identify why the causal condition does not generate the outcome and therefore may help to identify

missing causal conditions and improve model specification (Schneider and Rohlfing, 2013).

Finally cases that are neither in the QCA solution or the outcome (zones 4 and 5) are disregarded for post solution analysis because they are not part of the QCA solution or the outcome, so can offer little in terms of inferential benefits.

### **5.8.1 Analysis of Typical Cases**

The QCA produced 22 typical cases (see zone 1 in Figure 20). Table 16 below lists all typical cases. Twenty of these cases have board configurations C1 (fED\*fWOB) and/or C2 (fSRB\*fINTER\*fWOB) and two have a C3 (~fWOB30\*~fCOMM\*fINTER) board configuration. Included in these typical cases are 9 of the 11 companies that have achieved what is considered to be gender balance with 40% or more women in the executive levels. Five of these companies have C1 board configuration, 1 has C2 board configuration and 3 have both C1 and C2 board configurations.

An analysis of typical cases facilitates the inference of possible causal mechanisms. C1 and C2 configurations both have the confluence of having a critical mass of female directors who are also in positions of power and status. Next and Burberry are two of the “most typical” cases having the highest membership in the outcome. They best exemplify companies with a consistent trickle-down effect. Both companies have a long tradition of gender inclusivity. They were early adopters of growing female representation on the board when the Davies Review was launched. Next grew female board representation from 11 % in 2011 to 44.4% in 2015 well in excess of the 2015 target for WoB of 25% (Davies Review, 2015). Today, two of the four EDs are female, one of which is the Human Resource Director, which is quite unusual for a FTSE100, but may be a strategy to signal the importance of people and talent management in general and to developing better gender diversity more specifically. Their trickle-down effect has resulted in 54% female representation in the two levels below the board.

Burberry is another example of a company with a long tradition of embracing gender diversity on its board and with women in positions of power, in particular, with a female CEO from 2006-2014. Today their board is 50% female and they have both a female SID and CFO and have gender parity in their executive levels.

These two cases can be compared to another typical cases with lower membership scores in both the causal configuration and outcome. Tesco appears in configuration C2 with a female SID and a critical mass of WoB (31%) who have a number of board interlinks. However, this case demonstrates a more moderate trickle-down effect with 32% female representation in senior executive levels. Tesco has never had female Chair or CEO and their journey to better gender balance has been much slower having yet to reach the industry target of 33% for WoB. Interestingly, a new male SID was appointed in June 2021 and executive female representation has since slipped to 29.4% (FTSE Women Leaders Review, 2022). While it is impossible to say they are related (the pandemic may have had negative effects), it will be interesting to follow.

Taken together these typical cases suggest that the magnitude of the trickle-down effect may vary depending on the whether there is a female CEO or CFO in configuration C1 or a female chair or SID in configuration C2. Further, given the empirical evidence of the greater influence of CEOs and Chairs, companies with a female CEO or female Chair in combination with a critical mass of female directors may be much more influential in effecting a sustained culture change at the board that results in a more robust trickle-down effect. (While I was not able to separate these roles given the low numbers of women CEOs, chairs, CFOs and SIDs, this will be a fruitful avenue for further research.)

A number of mechanisms may be responsible for producing better gender balance in the organization via these two board configurations. The presence of women in their numbers, power and status together may be more effective in negating gender stereotypes (Skaggs, Stainback and Duncan, 2012), signalling a female friendly culture (Bilimoria, 2006) or by directly influencing the selection of top executives (Matsa and Miller, 2011).

With respect to women in key decision making roles like CEO and CFO, we can presume that these reputational benefits are further enhanced (Tate and Yang, 2015; You, 2021). Moreover, we know that CEOs have significant structural power and decision-making ability and are key decision makers in most executive level appointments and compensation decisions (Matsa and Miller, 2011). This power and influence explains why in the US female CEOs were associated with having more female executives (Elkinawy and Stater, 2011) and female executives in Italy were associated with more women in executive levels and lower gender wage gaps in the upper end of the wage distribution (Flabbi et al., 2019).

Similarity, the structural enhancement of having a female chair is highly effective in overcoming gendered status dynamics, facilitating the dismantling of the old boys network and creating an environment where the contributions of female directors can be realized (Kirsch, 2022; Sidhu et al., 2021; Weck et al., 2021; Zajiji, Wilson-Prangle and Ndletyana, 2021).

**Table 16 - Typical Cases in QCA Solution**

<b>Typical Cases (<math>x &lt; y</math> and <math>x &gt; .5</math> and <math>y &gt; .5</math>)</b>		
<b>Case/Company</b>	<b>SMV in causal configuration</b>	<b>SMV in outcome</b>
STANDARDCHARTERED	0.541	0.571
TESCO	0.541	0.571
RIOTINTO	0.569	0.571
NATIONALGRID	0.611	0.651
SAINSBURY	0.611	0.791
LEGAL&GENERALGROUP	0.611	0.821
LONDONSTOCKEXCHANGEGROI	0.619	0.681
ADMIRALGROUP	0.66	0.681
WPP	0.66	0.711
RSAINSURANCEGROUP	0.66	0.711
STANDARDLIFEABERDEEN	0.66	0.711
COMPASSGROUP	0.66	0.711
BPPLC(BPAmoco	0.66	0.741
JOHNSONMATTHEY	0.66	0.741
DIAGEO	0.66	0.741
RIGHTMOVE	0.66	0.841
HALMA	0.66	0.841
PEARSON	0.66	0.841
BURBERRYGROUP	0.66	0.951
NEXT	0.66	0.971
WHITBREAD	0.711	0.841
ITV	0.711	0.881

The two typical cases appearing in configuration C3 indicate that the female directors are highly experienced with a number of board directorships but they do not represent a critical mass and none have the additional responsibility of chairing any of the board three committees. This configuration represents a fairly male dominated board. However, because these female directors are not part of a larger minority and are not chairing committees which are normally associated with a specific skill set, their higher status as a result of being on other public boards may be more visible. Further, because they are not chairing committees, other board members may consider their knowledge and influence beyond the specific remit of a board committee. As a result their heightened visibility as high status members may allow them to more easily build consensus and influence decision making (Lucas and Baxter, 2012; Veltrop et al., 2017). Moreover, because this may be the first experience male directors may have had with

female directors, the interlinked female directors may play a key role in socializing male directors and demonstrating the capabilities and contributions of female directors. Research has shown that experienced directors with exposure to other companies can bring valuable insights from other businesses and help to gain access to resources and disseminate business practices (Hillman, Shropshire and Cannella, 2007; Öberg, 2021; Shropshire, 2010).

The QCA solution suggests that no one aspect of female directors numbers, power or status on its own is consistently effective in activating trickle down mechanisms like. advocacy, signalling and role modelling. This is consistent with the variable results in research on the trickle-down effect associated the numeric representation of female directors. These probabilistic models do not consider the roles and power or status female directors have although some studies have begun to look at interaction effects of two variables on an outcome (Cook, Ingersoll and Glass, 2018; Glass and Cook, 2018) .

This study on the other hand examined the inclusive nature of boards by looking not only at its gender diversity (numbers) but also how well integrated female directors are in terms of their power and status. The QCA solution identifies three board configurations that are effective in activating trickle-down mechanisms and producing the trickle-down effect. These board configurations are reflective of organizations that have gone beyond gender diverse boards to ones where female board members are more fully integrated. These configurations, therefore, both better represent and support more gender inclusive organizations.

## **5.9 Deviant Case Analysis**

### **5.9.1 Deviant Cases for Consistency**

There are two types of deviant cases for consistency. Deviant in degree and deviant in kind. Table 17 below lists both types of deviant cases for consistency both in degree and kind I discuss both of these in the following sections.

**Table 17 - Deviant Cases for Consistency**

Deviant Cases for Consistency Cases					
Deviant in degree ( $x > .5$ and $y > .5$ but $x > y$ )			Deviant in kind ( $x > .5$ , $y < .5$ )		
Case/Company	SMV in causal configuration	SMV in outcome	Case/Company	SMV in causal configuration	SMV in outcome
M&G	0.66	0.501	SPIRAX-SARCOENGINEERING	0.501	0.431
VODAFONEGROUP	0.66	0.501	PRUDENTIAL	0.519	0.451
LANDSECURITIESGROUP	0.66	0.501	HARGREAVESLANSDOWN	0.611	0.351
FLUTTERENTERTAINMENT	0.66	0.541	CRH	0.66	0.181
SMITH&NEPHEW	0.66	0.571	INTERMEDIATECAPITALGROUP	0.66	0.231
BARRATTDEVELOPMENTS	0.66	0.611	3IGROUP	0.66	0.251
AUTOTRADERGROUP	0.66	0.611	CRODAINTERNATIONAL	0.66	0.401
UNILEVER	0.66	0.651	ROYALDUTCHSHELL	0.66	0.451
NATWESTGROUP	0.711	0.651			
GLAXOSMITHKLINE	0.861	0.841			
PENNONGROUP	0.881	0.541			
AVIVA	0.881	0.681			
TAYLORWIMPEY	0.951	0.501			
SEVERNTRANT	0.981	0.791			

### 5.9.1.1 Deviant in Degree of Consistency

Cases that are considered to be *deviant in degree of consistency* appear in the sufficiency solution but contradict the sufficiency statement because the membership score in the solution is greater than its membership score in the outcome. (i.e.  $x > y$ ). There are 14 cases that are *deviant in degree of consistency*. Most have a small variance between the condition and the outcome and do not deteriorate the consistency score much, therefore I focused my analysis on companies where the variance was relatively large.

I identified two companies with larger difference between the QCA solution and the outcome, Taylor Wimpey and Pennon Group. In both cases these companies had made recent appointments of women directors into more powerful roles. Taylor Wimpey had just appointed Irene Dorner as Chair in Feb 2020 and Pennon Group had just appointed Susan Davy as CEO and Gil Rider as Chair in July 2020. Given these recent appointments it is very unlikely that the trickle-down mechanisms would have had sufficient time to produce increases in gender diversity at senior executive levels as of the date of this

analysis (August 2020) and so these inconsistencies maybe the result of a temporal issue rather than an issue with model specification.

While this suggests that I should have included a temporal aspect in my data collection I chose not to for three primary reasons. First, while many researchers employ a one-year lag between independent and dependent variables, it is not clear whether one year is enough time to see trickle-down effects particularly for senior level roles that come up less frequently and often take multiple years of career development. Secondly, as this was an exploratory study, it provides a baseline upon which other researchers can refine the models. Finally, a detailed case analysis into inconsistencies could be better handled by this type of post QCA analysis.

#### **5.9.1.2 Deviant in Kind for Consistency**

*Deviant in kind* for consistency refers to cases that have higher membership in the causal condition and low measurement in the outcome (see Table 17). Companies with membership in the causal condition but low membership in the outcome suggest that gender diversity has been realized at board level but has not trickled down to the senior executive levels. I focus on two of these deviant in kind for consistency cases who have a relatively high membership score in the sufficiency solutions but very low membership scores in the outcome. These two examples are Intermediate Capital Group and 3i Group.

Intermediate has consistently been one the poorest performers for WoB and for women in executive levels (Hampton Alexander Review, 2021) and until 2020 they had an all-male executive committee. The female ED had only been appointed a few months before this analysis and therefore there may not have been time for a trickle-down effect to have been activated. Given their poor record on gender diversity and since this was a first-time appointment of a female ED, I investigated to see what other changes at the board may have precipitated this fairly significant appointment. Indeed, Lord Mervyn Davies, the sponsor for the Davies Review, became chair of Intermediate Capital Group in 2019 and the

appointment of its first female ED soon followed. Further, the appointment was in a newly created position of Senior MD & Chief People Officer. It is rare that a FTSE company would have a human resource executive in an ED position, so this may be a strategy to signal to stakeholders its commitment to people management generally and gender diversity more specifically.

Research has shown that the Chair is instrumental in managing the agenda of the board (Bezemer, Nicholson and Pugliese, 2018) and in setting the tone and culture of the board (Kakabadse, Kakabadse and Barratt, 2006). Intermediate may be an example of male leadership initiating a process towards more equitable succession planning that ensures that women directors are also participating in more influential and powerful roles.

3i Group, my second example, had stepped up early reaching the 33% Hampton Alexander target for WoB by 2019, and has had a female CFO since 2008, however, it has been one of the poorest performers for increasing representation of women in the senior executive levels. In fact female representation in senior levels has actually fallen from 23.7% in 2017 to 16.7% in 2021 (FTSE Women Leaders Review, 2022; Hampton Alexander Review, 2017).

These deviant cases for consistency in kind suggest that improvements in gender diversity at board level are perhaps due to external pressures from shareholders or industry initiatives like the Hampton Alexander Review and have not been applied more broadly to levels below the board. This suggests that their diversity commitments may be little more than an attempt to look politically correct rather than a genuine commitment to embed gender diversity in their cultures. However, the Intermediate Capital case is an example of the influence that a male Chair can have in very quickly creating a create a culture of inclusiveness and an environment conducive to cultivating gender diversity.

### **5.9.2 Deviant Cases for Coverage**

Finally, I looked at cases deviant for coverage (see Table 18 below). These are the cases that are not part of the QCA solution but have 30% or more women in

executive levels. These are cases that have high levels of gender diversity in executive levels notwithstanding their low membership in the QCA solution.

**Table 18 - COA - Deviant Cases for Coverage**

<b>Deviant Cases for coverage (x &lt; .5 and y &gt; .5)</b>		
<b>Case/Company</b>	<b>SMV in causal configuration</b>	<b>SMV in outcome</b>
BRITISHLANDCO	0	0.861
RELX	0.179	0.501
INFORMA	0.33	0.501
HOMESERVE	0.33	0.501
JDSPORTSFASHION	0.33	0.571
SMURFITKAPPAGROUP	0.33	0.571
GVCHOLDINGS(nowEntain)	0.33	0.611
SEGRO	0.33	0.611
MELROSE	0.33	0.611
UNITEDUTILITIESGROUP	0.33	0.651
SAGEGROUP	0.33	0.791
DSSMITH	0.34	0.501
AVAST	0.34	0.651
WMMORRISONSSUPERMARKETS	0.34	0.771
INTERCONTINENTALHOTELS	0.34	0.771
PHOENIXGROUPHOLDINGS	0.34	0.771
BTGROUP	0.389	0.501
ASTRAZENECA	0.389	0.881
LLOYDSBANKINGGROUP	0.459	0.651

There are a total of nineteen cases that are deviant for coverage and contribute to deteriorating the coverage score for the QCA solution. That is, they have membership in the outcome but do not have membership in any of the causal configurations in the solutions. This suggests that these companies have produced 30% or more women in their executive levels via different or complementary conditions. Most of these cases belonged to a truth table row with a configuration that included at least one of or a combination of a critical mass of WoB, one or more female committee chairs and where female directors had a relatively higher number of board interlinks, however, their association with the outcome was highly inconsistent.

While research has suggested that highly interlinked females and committee chairs can have more influence on certain decisions like CEO selection or

compensation decisions (Cook, Ingersoll and Glass, 2018; Cook and Glass, 2015a), the inconsistency observed here suggests that they may not always be able to activate the trickle-down effect. However, the cases appearing here, are cases where the trickle-down effect was activated. For example, two companies, British Land and Astrazeneca, with very low values in the causal configurations had achieved very high values in the outcome with over 40% women in their senior levels. In both cases the companies had made public some very aggressive diversity targets. British Land has a commitment to have at least 40% women on the board and in the executive level by 2022. Similarly Astrazeneca has a target to achieve gender parity in their executive positions by 2025.

A consideration of these deviant cases (both by for consistency and coverage) suggests that are other board considerations that could explain these discrepancies. Research has shown that when a board environment is supportive of gender diversity initiatives, women directors are more likely to advocate for other women or advance gender diversity issues (Kirsch, 2022). Research also shows that the Chair plays a critical role in orchestrating the agenda of the board, facilitating board engagement (Bezemer, Nicholson and Pugliese, 2018) and in setting the tone and culture of the board (Kakabadse, Kakabadse and Barratt, 2006; Kirsch, 2022) and until very recently, the Chair role has been most often held by a male. Sponsoring and advocating for improved gender diversity is not only the responsibility of female directors. Indeed without the critical initial support from male leaders to embrace gender diversity within organizations, we would not have seen the progress we have to date. Therefore, the agency of male leaders, in particular the chair, is likely an antecedent to the development of a more gender integrated board, one where female directors participation has been normalized, board dynamics have been changed to be more female friendly and where female directors being appointed to senior board roles like CEO and Chair. In terms of corporate boards, male leaders, in particular the board Chair, are critical gatekeepers for gender inclusivity and are a key factor in explaining why board configurations with combinations of WoB, committee chairs and interlinked female directors are sometimes associated with 30% or more executive women and sometimes not.

**Note:** For transparency I include the table showing the irrelevant deviant cases in Table 19 of which there are 33 cases. These cases do not exhibit the causal configuration or the outcome.

**Table 19 - Irrelevant Deviant Cases**

<b>Irrelevant Deviant Cases (<math>x &lt; .5</math> and <math>y &lt; .5</math>)</b>		
<b>Case/Company</b>	<b>SMV in causal configuration</b>	<b>SMV in outcome</b>
GLENCORE	0	0.131
PERSIMMON	0	0.271
RENTOKILINITIAL	0	0.431
STJAMES'SPLACE	0.099	0.351
RECKITTBENCKISERGROUP	0.099	0.401
SCHRODERS	0.099	0.431
FERGUSON	0.109	0.291
ASHTADGROUP	0.229	0.151
KINGFISHER	0.229	0.431
SSE	0.289	0.331
HSBCHOLDINGS	0.289	0.451
BERKELEYGROUPTHOLDINGS	0.33	0.271
EVRAZ	0.33	0.291
ASSOCIATEDBRITISHFOODS	0.33	0.331
EXPERIAN	0.33	0.351
AVEVAGROUP	0.33	0.451
COCA-COLAHBCAG	0.33	0.481
DCC	0.34	0.291
BRITISHAMERICANTOBACCO	0.34	0.311
INTERTEKGROUP	0.34	0.331
OCADOGROUP	0.34	0.351
HIKMAPHARMACEUTICALS	0.34	0.351
ANGLOAMERICAN	0.34	0.401
BAESYSTEMS	0.34	0.401
ROLLS-ROYCEHOLDINGS	0.34	0.401
MONDI	0.34	0.481
IMPERIALBRANDS	0.381	0.201
BHPGROUP	0.381	0.431
INTERNATIONALCONSOLIDATED	0.389	0.311
POLYMETALINTERNATIONAL	0.389	0.331
SMITHSGROUP	0.389	0.351
BARCLAYS	0.459	0.481
BUNZL	0.481	0.431

This next section is where I test the results of my baseline model by replacing aspects of the model with plausible alternatives.

## 5.10 Robustness Analysis

A robustness analysis is conducted to determine the sensitivity of the configurations identified in the solution as the results in QCA can be very sensitive to calibrations and other model specifications. Following recent studies using fsQCA analysis (Fiss, 2011), I conducted three separate sufficiency analyses with changes to frequency and consistency threshold and to changes in the calibration method for the critical mass of WoB.

For changes to frequency I increased the frequency threshold to 4 which eliminated any rows with less than 3 observations. This change allowed a focus on the more frequently observed configurations while still including at least 80% of the observations. For a second test, I increased the consistency threshold from .8 to .9 (keeping the same PRI of .65). Finally I changed the calibration of the critical mass for WoB.

Some QCA methodologist caution that the use of finely grained membership scores may result in uninterpretable configurations (Rutten, 2021). As the SMV represents a qualitative statement about the condition in terms of its membership in a set, a four or six value scale may be all that is needed to differentiate between degree of membership. For this QCA, the condition based on critical mass was calibrated using the software and resulted in finely grained membership scores between 0 and 1. For example a case with 41% WoB was assigned a fuzzy membership score of 0.861 and one with 50% was assigned a fuzzy membership score of 0.951, however there likely is not a significant qualitative difference between these two. They both could be regarded as gender balanced proportions. Therefore, in order to see if the QCA solution would produce a significantly different solution, I used a four-point scale to assign a SMV based on whether the percentage was out, mostly out, mostly in and in the set of critical mass. The recalibrated condition, the critical mass of WoB is shown below in Table 20 below.

**Table 20 - Recalibrated WoB Condition**

Direct Calibration Condition		Fuzzy Set Calibrations			
		Fully in >= .4	Mostly In .30 - .39	Mostly Out .16 - .29	Fully Out 0 - .15
fWOB	critical mass Women on Boards	1.00	0.66	0.33	0.00

Table 21 below shows the results of the robustness analysis. While it would be unlikely to get the exact solution with these changes, the results were robust for all changes as similar solutions were produced with similar consistency and coverage. Increasing the frequency cut-off was the most robust and the recalibration of the critical mass for WoB also produced similar results. Increasing the consistency threshold to .9 produced a very complex solution as the software was unable to simplify the solution when applying a high consistency threshold. Overall, the QCA solution is robust to these changes in specifications and therefore provides a level of support for the solution.

**Table 21: Robustness Analysis**

Original Solution	Change in Model Specification		
	Frequency cutoff: 4	Consistency threshold:.90	Recalibration of fWoB to 33%
<b>fED*fWOB30</b>	<b>fED*fWOB30</b>	<b>fED*fSRB*~fINTER*fWOB30</b> <b>fED*~fSRB*fINTER*fWOB30</b> <b>fED*~fCOMM*fWOB30</b>	<b>fED*fWOB</b>
<b>fSRB*fINTER*fWOB30</b>	<b>fSRB*fCOMM*fINTER*fWOB30</b>	<b>fSRB*~fCOMM*fINTER</b> <b>~fSRB*fCOMM*~fINTER*~fWOB30</b>	<b>fSRB*fINTER*fWOB</b>
<b>~fCOMM*fINTER*~fWOB30</b>	<b>~fCOMM*fINTER*~fWOB30</b>	<b>~fCOMM*fINTER*~fWOB30</b>	<b>~fCOMM*~fINTER</b>
coverage: 0.774519 consistency: 0.891113	coverage:0.763051 consistency: 0.889837	coverage:0.684532 consistency: 0.92151	coverage: 0.679203 consistency: 0.871029
	very similar	somewhat similar	similar

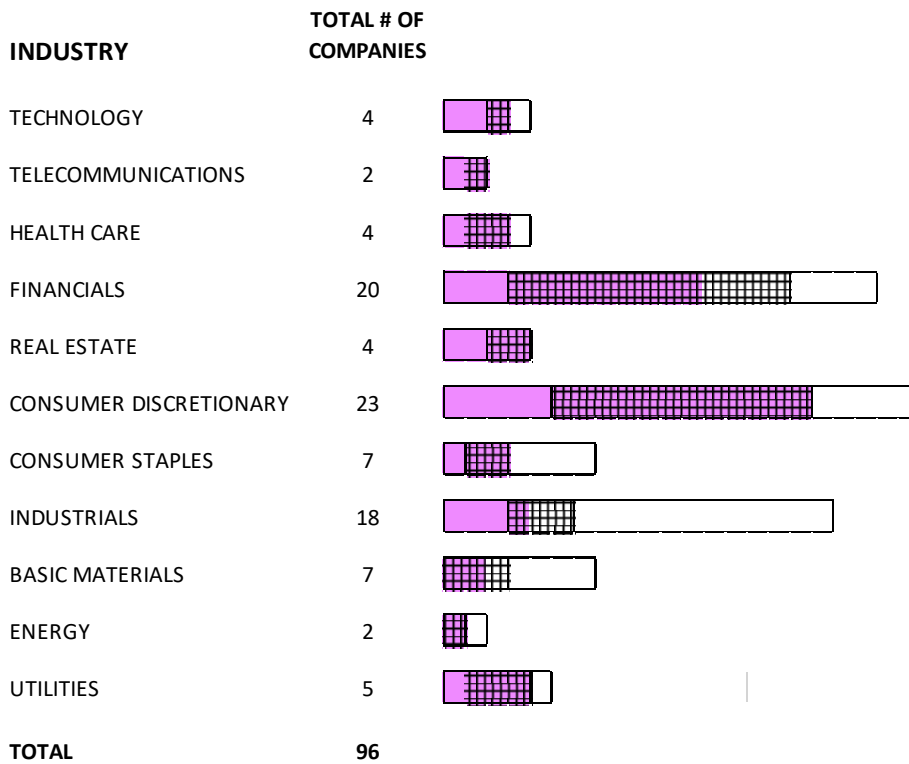
## **5.11 Configurations for Low Gender Diversity**

In line with a key characteristic of QCA, I also performed an analysis for the absence or the negation of the outcome, that is low levels of women in senior executive levels (i.e. <30% women executives), using the same explanatory conditions. Consistent with the asymmetric understanding of causality, none of the board configurations with women directors in roles with status or power were associated with low levels of women in senior levels. The consistency of configurations fell well below the recommended threshold of .75 meaning that the causes for low levels of gender diversity are different from those that contribute to gender diversity below the board.

## **5.12 Sector Analysis**

While the configurational analysis was focused on examining whether the numbers, power and status of WoB are related to gender diversity in senior executive levels, sector is often considered to be a factor in the career choices of women. The sectors thought to be most problematic for attracting and retaining women include those careers in Science, Technology, Engineering and Mathematics (STEM). Below in Figure 21 is an industry analysis of the companies included in the sufficiency solution. I used the FTSE Russell Industry Classification Benchmark (ICB) to classify the companies in my sample. While some industries have a large number of companies represented in the data set and the sufficiency solution, notably Consumer Discretionary business, others have rather low representation, i.e., Industrials. However, a representative company for all industries appears in the solution suggesting that improving gender balance is a possibility across all sectors.

**Figure 22: Companies in Sufficiency Solution by Industry Sector**



**Industry Classification as per FTSE Russel Industry Classification Benchmark (ICB)**

Pink sections indicate the # of companies with a female representation in EXCO and Direct Reports >=30%

Shaded section indicate the prototypical companies in the sufficiency solution

Overall, the companies in the sufficiency solution covered all sectors of the FTSE 100 from Aerospace to Utilities and everything in between. This corroborates research, and dispels the myth, that finds that while certain industries are more “masculine”, individual companies can attract, develop and retain female talent for corporate boards which can provide further positive effects on improving gender diversity in the executive pipeline (Vinnicombe and Ruth, 2008). Companies following one of the board configurations presented in the sufficiency solution can generate higher levels of gender diversity in their senior executive levels and can do so regardless of industry.

### 5.13 Summary

This QCA was devised to identify patterns of association across FTSE 100 board configurations and the QCA solution has revealed three equifinal board configurations that are conducive to achieving higher levels of women in senior executive roles. This solution suggests that it is not only a critical mass that matters to improve gender diversity below the board. Instead, it indicates that women directors also need to be in positions of influence in order to activate the trickle-down effect and improve gender diversity in the executive ranks.

The data set analyzed here included 96 companies in the FTSE 100 in 2020. There were 55 companies which had 30% or more female senior executives. The fuzzy set qualitative analysis identified 44 prototypical companies following one or more of the three pathways and these pathways were sufficient and associated with 30% or more female executives in 89% of cases.

The QCA solution and the post solution analysis provides evidence that a gender diverse board in terms of the numbers, power and status of women directors is effective in activating a trickle-down effect to senior executive levels and generates improvement in gender diversity to a better than average levels of 30% or more. The solution suggests that a critical mass of WoB is not necessarily a catalyst to generate 30% or more executive women but is necessary for companies wishing to drive their gender balance in senior levels to gender balance (40%) or gender parity (50%). The solution identified no single conditions that were sufficient to generate better gender balance in the executive levels. Rather, it is the confluence of WoB and their presence in influential roles that is required to produce the outcome.

The solution also suggests that interlinked board members may play an important initial role for boards early on their journey to more gender balanced and integrated boards. Further, the post solution analysis points to the important role male leadership plays in underpinning a culture change and creating an environment conducive to gender diversity initiatives at the board, especially the appointment of women directors to more powerful board roles, which can then trickle-down to levels below the board.

## 5.14 Limitations

The results of this QCA study and its findings are subject to a number of limitations. First, this analysis attempted to incorporate a level of complexity in understanding the influence of WoB on gender diversity below the board by disaggregating board roles and including these as individual explanatory conditions. Other explanatory conditions may be contributing, however, this type of analysis is constrained by the number of explanatory conditions that can be included as adding more conditions increases the number of logical configurations exponentially making the analysis unwieldy.

Second, while I focussed this analysis on the FTSE 100 to provide a somewhat homogeneous sample, I did not conduct any further contextual analysis such as looking at firm size, revenues or geographic scope to see whether board configurations were differentiated by sector.

This analysis also did not consider how gender board configurations have changed over time. Given that boards of companies have evolved significantly over the past decade and are in constant flux, a longitudinal analysis may provide further evidence and insight into the association between gender board configurations and gender balance in the executive levels.

This analysis was not able to disaggregate and analyze other aspects of diversity including racial/ethnic, social class, nationality, or any interactions with gender. Intersectionality can be important moderators and may be important to help to explain the variance between firms. For example, previous research suggests that women of colour may experience leadership differently and their professional experience may vary. Such research may provide a more nuanced understanding.

Finally, while QCA is conceptually designed to determine causality (i.e. that certain female board configurations will lead to higher gender diversity below the board), endogeneity problems remain in terms of ruling out reverse causality (Baumgartner and Thiem, 2017; Duşa, 2019; Greckhamer et al., 2008; Misangyi and Acharya, 2014; Rubinson, Rutten and Greckhamer, 2019).

### **5.15 Research Implications**

This study on the effect of WoB on gender diversity below the board suggests that simply developing a critical mass of WoB is not enough to generate the so called “trickle-down effect” (Gould, Kulik and Sardeshmukh, 2018) to women below the board, particularly for senior level positions. This finding extends our understating of the influence of a critical mass on boards and the importance of power and status in board decision making and in influencing board outcomes. Taking a configurational approach has also demonstrated the utility of this methodological approach when analyzing the gender composition of boards.

### **5.16 Practical Implications**

This research and its results provide important guidance and considerations for companies wishing to improve the gender diversity in their corporate pipelines. Importantly this research shows that improving the gender balance of corporate boards, while an important first step, does not fully enable women directors to influence board decisions and outcomes nor does it adequately signal to existing and prospective employees the firm’s commitment to a gender diverse and inclusive organization.

## **6 SUPPLEMENTARY STUDY – INTERVIEWS WITH EXPERIENCED BOARD MEMBERS AND ADVISORS**

### **6.1 Background**

While the QCA analysis has helped to identify which board configurations are associated with higher levels of gender diversity below the board, it does not provide insight into contextual factors or the mechanisms that may underpin these associations. Following (Aversa, Furnari and Haefliger, 2015) who conducted interviews with industry experts as a follow up to their QCA study, I conducted a number of interviews with industry experts to qualitatively explore the nature of these associations. Consistent with the advantage of complementarity in a mixed method research design, it is expected that these interviews will help to enhance, elaborate, and clarify the results of the QCA study to further contextualize the three board configurations that have been successful in producing 30% or more women executives.

A number of semi-structured interviews were conducted with prominent and highly experienced FTSE board experts to delve more deeply into the results of my configurational analysis. The objective of the interviews was to capture interviewee's subjective experience, working on and with boards to help theorize about board level mechanisms that activate the trickle-down effect.

In this chapter I describe how this supplementary qualitative study augments the post solution analysis described in the previous chapter. I outline the research method and data analysis approach and then present a high-level overview of the findings. The subsequent sections are organized by the high-level themes that I identified that are operating at board level (and some other influencing aspects that emerged from our discussion) and their theoretical underpinnings. A more detailed discussion of each theme is provided: critical mass (section 6.8.1), women directors in positions of power (section 6.8.2), women directors with status (section 6.8.3) and finally the role of male leaders (section 6.8.4). I then discuss the other influencing factors beyond the board which may be helpful

in informing a future research agenda. Finally, section 6.9 discusses causal mechanisms before moving to a discussion and summary.

## **6.2 Next Steps - Post Solution Analysis – A Qualitative Approach**

This exploratory analysis has provided a systematic and transparent analysis of the association between the gender configuration of UK corporate boards and better gender balance in the executive levels. The analysis revealed three distinct board configurations that are consistently associated with higher levels of women in the senior executive levels. The results show that it is the confluence of WoB in both their numbers (critical mass) and their presence in powerful and influential roles on their boards that leads to better gender balance in the executive levels. While this QCA analysis has helped to identify which board configurations are associated with higher levels of gender diversity below the boards, it has not provided much insight into contextual factors or the mechanisms that may underpin these associations. To better understand these aspects, a number of in-depth interviews were conducted to further explore the nature of these associations and extend my post solution analysis.

## **6.3 Research Method and Sample**

To further investigate whether and how these configurations may be operating to influence gender diversity, a number of semi-structured interviews were conducted with experts in UK corporate governance. Identification and selection of participants followed a purposeful selection process. The eight board experts were identified with the assistance of Professor Sue Vinnicombe who has extensive experience and relationships in the UK corporate governance space. Professor Vinnicombe has been advancing gender diversity on FTSE boards and women's leadership with her research and has participated on a number of industry committees including the Davies Review and the Hampton Alexander Review.

These eight board experts could all be characterized as being active in advancing and supporting gender diversity in UK companies and I was interested in discussing their experiences in companies that they work for and with. Questions for the interviews were designed to facilitate a discussion on their experiences and perspectives with respect to board dynamics, who has power and influence in making board decisions and whether female directors in powerful roles were more impactful in advocating for other women or were taking gender equity related actions.

Table 22 shows below details on the backgrounds of eight interviewees. The five board members have extensive UK corporate board experience and have collectively sat on 32 UK public company boards with experience in all the positions considered in this analysis. The group included 2 males and one female with board chair experience in FTSE 350 companies, two had experience in the role of SID and all but one has had executive director experience. Four of the five chaired multiple board sub-committees. Of the three board advisors, two have had significant board level search experience and one has been involved with the training and development of new board chairs.

**Table 22: Profiles of UK Board Experts**

	GENDER	EXPERIENCE		POSITIONS HELD			
		YEARS OF BOARD EXPERIENCE	# OF PUBLIC BOARDS	BOARD CHAIR (PUBLIC)	SID	COMMITTEE CHAIR	ED
<b>BOARD MEMBERS</b>							
DIRECTOR 1	M	24	9	3	1	6	3
DIRECTOR 2	M	24	9	5		6	1
DIRECTOR 3	F	11	3			3	
DIRECTOR 4	F	17	9	2	1	8	1
DIRECTOR 5	F	14	2				1
		<b>90</b>	<b>32</b>	<b>10</b>	<b>2</b>	<b>23</b>	<b>6</b>
		<b>YEARS OF EXPERIENCE</b>	<b>TYPE OF EXPERIENCE</b>				
<b>ADVISORS</b>							
ADVISOR 1	F	17	executive search and board appointments				
ADVISOR 2	F	16	executive search and board appointments				
ADVISOR 3	F	16	board chair development and board effectiveness reviews/leadership, succession and career management				
		<b>49</b>					

## **6.4 Data Collection**

The interviews were conducted via Zoom. All calls were recorded using zoom technology, which provides audio, video and text files after the session is completed. In transcribing the interviews, I relied primarily on the text files and used the video files to cross reference and clarify any mistranslations made by the zoom software.

Each participant was provided with a high-level summary of the study and the findings (see Appendix D) as well as the three interview questions (See Section 6.5) to be covered in our interview. I provided the background and interview questions in advance so that we could make the most efficient use of our allotted interview time. Given the profile of the participants and their time constraints, I had asked for about 45 minutes of their time and the calls ran between approximately 40 – 50 minutes in length. Participants were asked to reflect on what their experiences were with respect women directors in terms of their status, power and influence on board discussions and decisions, whether women directors in senior board roles had more influence in board dynamics, how those organization's approach to equality, diversity and inclusion may have differed and whether there were other important influencing factors. Specifically, the three questions provided were as follows:

## **6.5 Interview Questions**

1. The analysis performed identified a number of board configurations suggesting that women need to be in positions of power and or status within the hierarchy of the board in order to lead to higher levels of gender diversity in the executive pipeline. What is your reaction to this?
2. The analysis showed that boards with a critical mass of WoB AND a woman in an executive director role was associated with higher level gender diversity in the senior executive level. Another configuration

included a critical mass of WoB AND a female in a senior board role (Chair or SID) AND a board with a relatively higher number of female board interlinks also associated with higher levels of executive women.

- a. Do you think these boards change the way the organization approaches gender diversity?
- b. How do you think these board configurations influence women coming up the executive pipeline?

## **6.6 Data Analysis**

I opted to perform a thematic analysis of the interview data using template analysis. Template analysis is a content analysis technique for qualitative research that is structured but more flexible than some other content analysis methods like grounded theory. Template analysis is designed to search for commonalities in the data which are initially coded into descriptive themes which are then sorted into more interpretive themes.

Template analysis is a technique rather than a method and therefore is not married to any particular philosophical perspective. A researcher's philosophical perspective, however, will inform how the technique is employed. For example, taking a critical realist approach would begin with several a priori themes based on the literature related to the research questions (King, 2012). Based on my review of the literature, I identified four a priori themes related to the gender composition of boards and their relationship to the level of gender diversity below the board.

1. The role and importance of having women directors in positions of power;
2. The role and importance of having highly experienced non-executive directors;
3. The role of a critical mass of female directors; and,

4. The ways in which female directors influence women in the executive pipeline.||

The template analysis was facilitated with the use of NVivo, a popular Computer Assisted Qualitative Data Analysis software (CAQDSA). NVivo is designed to centralize data from a variety of sources and systematically analyze and code data to identify patterns and themes. While this study included only a small number of interviews with eight participants, I felt that the software would be helpful in conducting this thematic analysis and facilitate the organization and coding the data into overarching themes and sub-themes and expedite any cross-examination of the data. All relevant content was manually coded.

I followed the approach for template analysis outlined in (King, 2012). After reviewing and re-reading the transcripts, I developed an initial set of descriptive codes related to the a priori themes. Additional codes were added based on new themes identified from my review of the transcripts. These related to (1) the role of male directors, in particular male CEOs and Chairs, in advocating and supporting improved gender diversity in executive levels and the executive pipeline, (2) the role of other actors like the Human Resource Director (who is typically not a board member), (3) executive succession planning and (4) the role of various initiatives like the Davies and Hampton Alexander Reviews. (Themes 2 through 4 did not become part of the initial thematic map below as they do not relate to the research questions).

Once the data was coded into the initial codes, I began to review the themes with a view to identify more interpretive, overarching themes and related sub-themes while eliminating orphaned or miscellaneous themes that were not meaningful in the context of the research questions. As a result of this process I developed an Initial Thematic Map as shown in Table 23 with 5 main themes.

**Table 23- Initial Thematic Map**

<b>Themes</b>	<b>Codes</b>
<b>Women in positions of power</b>	Female CEOs
	Female chairs
	Female committee chairs
	Female SIDs
	Other EDs
<b>Critical mass of WoB</b>	Numbers of WoB
	Token female directors
<b>WoB with status</b>	Interlinked directors
<b>WoB influence</b>	Female director advocacy
	Role modelling, Signalling
	Female executive motivation
	WoB 'cause' improvements in gender diversity in exec. pipeline
<b>Male leadership/support</b>	Male Chairs
	Male CEOs

After this initial thematic map was created, I spent time to review and consider their coherence and distinctiveness in explaining what was conveyed during the interviews not only from a literal perspective but in terms of how their perceptions, experiences and descriptions could provide insight into the role of the board and specifically where women directors were situated and their impact on gender diversity in the senior executive levels. After a number of iterations, I settled on a final version of the thematic map shown in Table 24. While no version can be perfect, I considered the mapping below to capture the essence of the interviewees perspectives.

**Table 24 – Final Thematic Map : The Gender Composition of Boards and Gender Diversity Below the Board**

Theme	Sub-theme	Exemplar Extract	Key Literature
Role/importance of WoB with power	Chair	"If you've got a female chair, you know that's a very powerful message to to an organization"	(Brieger et al, 2019), (Weck et al, 2021)
	CEO	"What matters is where are the women in the decision making and so having women sitting on committees or being the new fresh face makes no difference whatsoever to women coming through the pipeline."	given the low # of female CEOs, research is limited
Role/importance of critical mass of WoB		"Where you've got women on the board, as opposed to the a singular woman on the board it just it does change the dynamic and male board members would acknowledge and recognize that as well."	(You, 2021), (Cook and Glass, 2015a), (Biswas et al., 2021'), (Biswas, Roberts and Stainback, 2021) (Torchia et al., 2011)
Role/importance of WoB with status	Interlinks	When you can bring the outside in by saying, on another board i'm involved in suddenly people listen particularly well.	(Shropshire, 2010), (Öberg, 2021), (Cook and Glass, 2015a), (Glass and Cook, 2018)
Ways in which WoB influence gender diversity	Changes board dynamics	"The Boards that I evaluate where there are more women on the board and and more women on the executive, they they perform better in terms of dynamics in those discussions."	(Fitzsimmons and Callan, 2022)
	Role modelling/Sign alling	"I've had loads women tell me if they see women at the top... particularly at executive levels ... i've spoken to many women who says that's a big motivation, I can see myself at the top, because there's you know, we've got a female CEO or a female finance director."	(Sealy and Singh, 2010), (Terjesen, Sealy and Singh, 2010)
	Influences motivation of female execs	"I think that is so I think it's great to have women at the top, as a motivational force or an inspirational force for other women in the organization."	(Périlleux and Szafarz, 2021)
	Advocacy	"I do think it is our responsibility, dare I say duty to help those women who are coming up in the organization it's our responsibility and duty to get to know those women."	(Konrad, Kramer and Erkut, 2008) (Kirsch, 2022) (Matsa & Miller, 2011) (Konrad, Kramer and Erkut, 2008), (Seierstad, 2016)
	<i>mediating factors: chair, boardculture</i>		(Duguid, 2011), (Duguid, Loyd and Tolbert, 2012) (Ali, Grabarski and Konrad, 2021)
	Causality	"if you have a female chair or a female CEO or a female SID, or you know, whatever, or maybe more women, you will, therefore, as a result of their pressure or their leadership or whatever get more women in the executive level i'm not sure that that necessarily follow."	<i>causality in addressed in most articles</i>
Role/importance of (male) leadership	Male leadership	"It can be embraced by men or women, but often at the start its being embraced by men."	(Kirsch, 2022)
	Chair's influence	<i>sets the tone (culture)</i>	"I think that the culture that the chairman sets is important. We need the men and the leadership roles thinking about what what more they can do."
		<i>key role in executive selection</i>	The single most important person when it comes to any CEO appointment is the chair and any committee leadership appointment is the Chair and any CEO and waiting appointment is the Chair.
	CEOs influence	"I mean the most important position in just about any company by a long distance is the CEO."	(Kakabadse, Kakabadse and Barratt, 2006), (Mace, 1972)

A critical mass was seen to be important but not enough to change cultures which is critical to dismantle gendered processes in talent management and succession

planning below the board. Directors with board interlinks were recognized as an important source of social capital and generally meant portfolio NEDs had more influence on less experienced board members. The power and influence of the Chair and the CEO was stressed again and again. Similar to boards with male CEOs and Chairs, boards with female CEOs and/or Chairs have both the structural power and status that increases their influence exponentially. Further, women in Chair or CEO roles send important signals of an organization's commitment to gender diversity. Finally, male CEOs and Chairs could either be catalysts and agents of change or stewards of the status quo. I discuss these themes in more detail below but will frame this discussion with some more general comments.

## **6.7 Some General Observations**

All of the participants in this interview study have been actively involved in advancing gender diversity in the UK, taking gender equity related action like challenging biases in recruitment and promotion processes, or by sponsoring and/or mentoring female executives in their organizations. Many were involved in and actively supported the industry led government initiatives like the Davies and Hampton Alexander Reviews and confirmed that the rationale for a focus on improving the gender balance of boards was that it would be an important first step in advancing gender diversity more broadly. Further, their focus on WoB was a pragmatic one given the availability of public data that would facilitate the monitoring of progress on an annual basis. The overarching goal, however, was to get more women in leadership, especially in important and influential executive roles. While these initiatives have provided important peer pressure and focused attention on increasing the number of WoB, the trickle-down effect has been uneven and has been especially ineffective in improving female representation in executive levels, especially for executive director level roles like CEOs and CFOs.

“It's never been the overall objective, the overall objective is to get more women to succeed, particularly more women in the Executive Committee, top business positions.” (Board Chair)

While on average the FTSE 100 did meet the 33% target for women directors, virtually all appointments were in non-executive roles. Female directors represent over 42% of the non-executives compared to only 14.2 % of the executive directors in FTSE 100 companies (refer to Table 1). Disappointment for lack of progress in this area was shared by all of the participants.

“Yes, there are lots of women (on boards), we've made great progress, but we've still got a problem in executive, top executive roles.” (Director 1)

“I think the lack of progress in executive roles is actually the far more important metric and benchmark than board roles.” (Advisor 2)

“Firstly, let's say the most disappointing thing is how few women chief executives there are.” (Director 2)

## **6.8 Main Themes**

Three themes related to the gender board configuration emerged from my thematic analysis (see Table 24 above). They include the role and importance of a critical mass of female directors and women in positions of power and women with higher status. Additionally there is a theme relating the role of male leaders in creating an inclusive environment and positively influencing gender diversity in the executive pipeline. Finally a theme emerged that deals how and when female directors can positively influence women in the executive levels and their advancement. The first theme discusses the role that a critical mass of female directors plays.

### **6.8.1 The Role and Importance of a Critical Mass of WoB - Important But Not Enough**

Government and practioner initiatives have almost exclusively focused on developing a critical mass of WoB based on the assumption that increasing WoB would trickle-down to the levels below the board. The trickle-down effect has, however, been uneven (refer to section 2.7.1). Moreover, academic research has also found largely equivocal results when examining the influence of the

gender composition of corporate boards on various firm outcomes including gender diversity below the board (Kirsch, 2018).

This external pressure to developing a critical mass of WoB has, however, had some important benefits, even if it hasn't had a consistent effect on gender diversity below the board. Increasing the number of women at the boardroom table has been crucial in challenging the status quo, in breaking down gendered leadership stereotypes and normalizing the presence of women in male dominated boardrooms.

“Diversity is not an easy thing to achieve .... and it's easy for a large group of men to convince themselves they've tried everything and it's all too hard.” (Director 4)

“I think it has more of an impact on the culture in the boardroom. I found that when you have more than the 30% figure, where you've got women on the board, as opposed to a singular woman on the board, it does change the dynamic and male board members would acknowledge and recognize that as well.” (Director 4)

Further, as the numbers of female directors increase, tokenism is reduced, making it easier to for women board members to speak up in boardroom discussions.

“I think it's the sheer numbers as well, if you're getting up to the three, four women in a board that makes a huge, huge difference”. (Director 3)

However, in terms of real influence, a critical mass of female NED's is not enough. Without the benefit of the power and status associated with more senior board roles, it can be very difficult for non-executive women to have their voices heard and influence board discussions and decisions.

“Being the new fresh face NED makes no difference whatsoever .... and it's very difficult for those women to have their voices heard.” What matters is where are the women in the decision making.” (Advisor 2)

Companies who neglect to advance women into more powerful positions on the board, in the same way that their male counter parts are, leave many female

NEDs at risk of being tokens notwithstanding their critical mass. When discussing with participants why the trickle-down effect has been so inconsistent, one thoughtfully reflected that after ten years of industry led initiatives to increase women in leadership positions what has resulted is that there are effectively two types of boards. Those who have succumbed to the pressure and put more women on their boards in little more than a “box-ticking” exercise and those who have really embraced gender diversity and made concerted efforts to build more gender balanced organizations. The ones who embrace and incorporate gender diversity throughout their organizations, generally, will have built a more gender balanced pipeline and will have more women in leadership roles, on the board and in the firm.

“There have been those boards that have, if you like, succumbed to the pressure ... and they have agreed that they're going to have some women on the board ... and then there's another type of board or another type of company that actually says, we need to make the best use of all of our talent, men and women.” (Director 1)

This observation is an important one as it points to an important causal sequence that when activated leads to better integration of WoB, which include female directors in roles with power and influence who consistently activate trickle-down mechanisms and improve gender balance below the board. It suggests that simply increasing the number of WoB, even to a critical mass level, does not adequately signal an organization's commitment to gender diversity. Nor does it give women board members the opportunity to move into more powerful roles where they can effect change by advocating for other women, creating a more female friendly corporate culture or being a supply of senior level role models. In other words, when companies make genuine commitments to gender diversity, it does not stop at a critical mass of WoB but leads to the integration of WoB into roles with power and influence that then produces the trickle-down effect.

This suggests, therefore, that whether the development of a critical mass of WoB trickles down to levels below the board is dependent on whether the WoB have real power and influence to change the status quo, contribute to a culture change

that is fair and equitable and create an environment where women in the executive pipeline can be developed and advance into senior executive roles.

With general agreement that a critical mass of women in NED roles was not enough to have much influence on the board, our discussions centred around who had power and influence on the board and how different role holders on the board could impact gender diversity related outcomes. I discuss their comments in the next section.

## **6.8.2 The Role and Importance of WoB with Power and Influence**

### **6.8.2.1 CEO and Chair**

The CEO and board chair are the two key board positions each associated with heightened prestige, power and influence. These senior board positions draw on different sources of power and influence. The CEO has the structural power delegated by the board, while the Chair, lacking explicit power, relies more on power from status such as the implicit status cues and the symbolism associated with holding the most senior board role. The Chair was seen as key to setting the tone and culture of the board and the CEO for setting the tone and culture of the organization. Not surprisingly, all of interviewees emphasized the important influence that both the chief executive and board chair have for any issue they chose to focus on.

The CEO has significant control over organizational resources, structures and processes. As the CEO is the boards choice for leading the company, absent poor performance or impropriety, the board normally allows the CEO significant latitude in organizational decisions. The CEO can further extend their influence at the board level by drawing on a number of other sources of power, including boundary control and limiting or managing the flow of information to the board (Gareth Morgan, 2016). As a result the CEO, most of the time, especially if the organization is performing well, will be the dominant person in organizational decisions and in setting the tone and culture for the organization.

“I mean the most important position, in just about any company, by a long distance, is the CEO.” (Director 2)

“You know if I’m thinking about influential people in the company, yes, the NEDs shouldn’t be ignored, the Chair really can be quite influential and individual committee chairs can have some influence in different areas, but for me, the CEO is head and shoulders over everybody else. (Director 2)

The CEO’s power extends to executive appointments and corporate pipeline development. Even though corporate governance codes have increasingly charged boards with more oversight for executive succession planning and improving gender diversity, in practice, talent management, succession planning and executive appointments are largely viewed as an executive function. Sometimes boards would be involved or consulted on some key executive appointments like the CFO, but generally it was left to the CEO to build their team.

“For the most part it’s pretty difficult for a board to define the team that the CEO wants to work with, I mean you know 99% of the time the CEO is going to decide who’s going to sit around the Executive Committee table.” (Director 1)

Most participants did recognize the importance of the executive pipeline to the longer-term prospects of the company, and the increasing expectation that boards should be more accountable for succession planning beyond the CEO and so some were calling for more and better board oversight.

“But the reality is appointments are made by the executive, below the executive... and those appointments are made without sufficient oversight.” (Director 5)

“And there isn’t enough focus on it, and even though everyone says oh yeah it’s an issue that needs fixing it’s not focused on sufficiently.” (Director 5)

Of course, the board clearly has ultimate power over the organization in the execution of their principal role, CEO recruitment, selection and when necessary, termination. In practice though, the chair carries considerable influence in those processes.

“The single most important person when it comes to any CEO appointment is the chair, and any committee leadership appointment is the Chair, and any CEO in waiting appointment is the Chair.” (Advisor 2)

Further, the appointment of a women to Chair can send very strong messages, both internally and externally.

“If you've got a female chair, you know that's a very powerful message to an organization. (Director 3)

Both the Chair and the CEO are defacto power holders, having direct impact on key organizational decisions and setting the tone and culture of the organization. While each carry considerable power and influence, their working relationship and alignment is an important aspect that can have significant consequences on how well initiatives are adopted and implemented. Indeed, research shows that the influence of the Chair/CEO dyad on organizational outcomes is significant and is dependent on how effective their working relationship is (Kakabadse, Kakabadse and Barratt, 2006)

“If the top leaders, two or three top leaders say this is what we should do, it normally happens.” (Director 1)

While improvements in the gender composition of corporate boards was largely initiated by external forces, changes to the gender composition of the corporate pipeline and executive positions requires an internal culture change. Providing leadership to change the status quo and to undo the gendering processes that favour male leaders requires commitment and action from top leadership.

“I think another aspect is frankly the attitude of the Chair and the Chief Executive... and if their attitude is helpful and positive, that can make a big difference. The championing of this sort of issue by chief executives and chairs in my mind can't be understated.” (Director 2)

### 6.8.2.2 Other Senior Board Roles

There were varying opinions about the power exerted by other senior board roles including other EDs, SIDs and Committee Chairs. For example, some felt that chairing committees could be a source of power.

“If you have women chairing audit and remuneration that's also quite powerful.” (Director 3)

Although it was suggested that the committee they were chairing would determine whether they would take any gender equity related action.

“It depends what committees they're on. If they're on audit and risk they tend not to involve themselves in it. If they're on ESG, nominations or remuneration, they do tend to focus on it.” (Director 5)

Sometimes, other EDs, like the CFO, could carry more influence but that too was contextual.

“The CFO, may be 50% of the time, the CFO is a CEO and waiting so they will have more influence.” (Advisor 2)

While the influence of the SID was also considered to vary, it is worthwhile to note that the SID performs an important board function as they lead the board in the selection process for the next board Chair. As a result, having a female SID may be an important aspect for an inclusive approach for the process. Indeed, the number of SIDs on FTSE 100 boards has grown from 14 in 2017 to 28 in 2021 (BoardEx, 2021; Hampton Alexander Review, 2017). Perhaps a coincidence, but during that same period the number of female chairs has more than doubled, growing from 6 to 14 (BoardEx, 2021; Hampton Alexander Review, 2021).

Most of the time, however, the power and influence of any of these other more senior non-executive board roles were considered to run far behind that of the Chair and the CEO.

“I mean, they (board chair) run the board and the board choose the CEO and the CEO runs the company and chooses their executive team , so those are the two critical roles.” (Director 4)

“For the women on a board, to truly be able to influence the pipeline, women have been in positions of power and those real positions of power are the Chair role, the chief executive or CFO role.” (Advisor 2)

In summary, power on the board resides primarily with the CEO and the Chair. While other senior board roles could carry more power and influence, this was variable and context dependent.

### **6.8.3 The Role and Importance of WoB with Higher Status - Board Interlinks**

Interlocking directors have long been regarded as an efficient way to transmit knowledge and facilitate diffusion of structures, strategies and practices between organizations. Further, research on WoB has shown that board interlinks can elevate female directors social capital and status and afford those members more respect and influence (Hillman, Shropshire and Cannella, 2007; Öberg, 2021), and lead to positive effects on a number of board outcomes such as; performance, external business relationships and resource provision, corporate governance and strategy and the appointment and success of women CEO's (Cook and Glass, 2015a; Glass and Cook, 2018; Öberg, 2021). Consistent with this research, interview participants agreed that those with multiple board experiences were recognized as having more credibility and influence in general, often allowing them to overcome their token or minority status.

“When you can bring the outside in by saying, on another board I'm involved in, suddenly people listen particularly well. (Director 5)

In addition to raising an interlocking director's status and influence, experience on other boards can also give them more confidence to share practices and strategies from other organizations.

"I think the interlinks are essential in terms of giving the women confidence to raise their voice, and more honestly to be heard." (Advisor 2)

While women directors with experience on other boards only appeared in one of the three configurations that were associated with 30% or more women in executive levels, the configuration was quite male dominated. This suggests that they may play an important role for boards starting their journey to better gender balance. The respect and credibility afforded to female interlinked directors may be an important aspect in the socialization process for male leaders who have had limited experience working with senior women peers or superiors.

"There are plenty of chairs, who are a little bit hostile to it, feel a bit uncomfortable about women..... One of the things I sometimes say when I'm talking to women about my life as an executive is I'm ashamed to say I never had a woman as a boss." (Director 2)

Women directors with a number of interlinks are somewhat of a known quantity and as a result may be able to influence their male peers in a way that a less experienced NED could not. Indeed, in the discussion of this particular configuration in the previous chapter (see section 5.6), I note how 3 of the 4 boards in this configuration had announced, shortly after my analysis, more female directors, some of whom were appointed to more senior board roles and had also demonstrated some early signs of a more robust trickle-down effect.

While the focus of this research and the interviews was to better understand how the numbers power and status of women directors could have influence on improving gender balance below the board, inevitably we also discussed what role male leaders have had and continue to have. This is summarized in the next section.

#### **6.8.4 The Role and Importance of Male Leaders**

Given that boards are still dominated by men and the key senior board roles with power and influence (i.e. chairs and CEOs ) still are predominately held by men, it is obvious that male leaders needed to play a role in first supporting initiatives to increase WoB and secondly to support appointing female board members to more senior board roles including the most senior roles of CEO and Chair. Without their leadership in in terms of changing attitudes, fostering a more gender inclusive environment and mentoring female executive women we would not have made the progress we have. Moreover, some of our interview participants suggest that male directors actually do more in terms of advocating for women than female directors do.

“I've actually seen more men do it (advocate for women) than women. It can be embraced by men or women but often at the start its being embraced by men.” (Director 1)

“What I'm really saying is its predominantly males who tended to be CEOs and chairs over the period.” (Director 2)

The initiatives to achieve better gender balance on boards were initially dependent on the support and commitment of male leaders and indeed they were important catalysts and change agents. Today, though, boards who have relegated WoB to the less powerful NED roles are reflective of boards reacting to external pressure rather than boards who have really embraced gender diversity and have gone on to better integrate WoB into more powerful roles. How boards evolve and women's power and influence on them seems to be dependent on the attitudes and actions of male leaders, in particular the Chair .

In the post solution analysis (see Section 5.9.2), I noted that boards with configurations that have various combinations of a critical mass of WoB, interlinked directors and female committee chairs have an inconsistent association with a better gender balance of executive women. The difference between boards that generate the trickle-down effect and those that do not may indeed be related to board receptivity and the presence of an environment

conducive to the adoption gender diversity as an organizational priority rather than a response to external pressure.

The QCA analysis provides broad support for this interpretation as it identified two board configurations that includes women in senior board roles leading to a 30% or more women executives. Further, the truth table analysis corresponded to the view that women in less influential board roles like committee chairs, SIDs or interlinked directors were not always able to influence board decisions and outcomes. Truth table rows with board configurations with various combinations of a critical mass of WoB, interlinked female directors and women in committee chairing roles along with males Chairs and CEOs had an inconsistent effect on the gender diversity in senior executive levels (see Section 5.9.2). Research suggests that the board environment may be a moderating factor. When the board environment is open to and supportive of gender diversity actions, taking equity related action is facilitated and is constrained when it is not.

“Unless somebody comes in and changes the culture, male or female, it’s not going to change.” (Advisor 3)

Since Chairs are responsible for running the board and setting the tone and culture of the board, their attitude towards gender diversity is a likely antecedent, influencing whether trickle down mechanisms are activated or not.

“If their (Chairs) attitude is helpful and positive that can make a big difference.” (Advisor 2)

In summary, while male leaders, specifically Chairs, have been important in lending their support for building more gender diverse organizations, this support must also extend to appointing women to senior board roles. This means that men on boards, specifically men in senior board roles like Chairs, will increasingly stand out in terms of whether they are part of the gender diversity solution or part of the problem.

### **6.8.5 How WoB Influence Gender Diversity - Hypothesizing Mechanisms**

A QCA analysis is a method designed to identify causal configurations of conditions that are consistently associated with the outcome. The configurations identified in a QCA, however, are merely empirical manifestations of underlying causal conditions or configurations. Causal claims can only be made by conducting a within case analysis and triangulating theory, empirical evidence and substantive knowledge to hypothesize causal mechanisms and develop causal arguments (Ragin, 2008; Rutten, 2020; Schneider and Wagemann, 2012). This section discusses the interviewees perspectives on various mechanisms that may be involved in leading to better gender balance in the executive levels.

Discussions with the participants with respect to how WoB could influence gender diversity more broadly varied quite significantly. Indeed, there was no consensus on whether women directors were particularly active in advocating for other women, or in mentoring or sponsorship activities. Interestingly, and quite surprisingly, none of the interview participants felt that the presence of WoB, or even having women in roles with more powerful influence was indicative of a causal relationship. In fact, many would more easily attribute a causal relationship to the male leaders on the board.

There was, however, concurrence around the signalling and role modelling benefits of having women in senior board roles. There was consensus that the presence of WoB, particularly in senior positions, both signals a firm's commitment to being a more gender inclusive organization, helps to motivate and inspire women in the executive pipeline and provides an important supply of senior level female role models.

“If you've got a female chair, that's a very powerful message to an organization.” (Director 3)

“Actually, I know women who joined companies because that sort of thing was happening and because they saw there's more potential for them.” (Director 2)

“I think I’ve spoken to many women who says that’s a big motivation (women in senior roles), I can see myself at the top, because there’s you know, we’ve got a female CEO or a female finance director or you know whatever it is.”  
(Director 1)

It was also suggested that in certain circumstances other senior managers may in fact have more power and influence in the day-to-day decision making. Other senior executives, such as members of the executive committee or those running important lines of business, can often accrue informal power as a result of their success and reputation at the firm and the organizational knowledge and expertise they build over long tenures (Greve and Mitsuhashi, 2007).

Good Human Resource Directors (HRDs) were also highly regarded and seen as critical for the development, implementation and execution of inclusive human resource practices and talent management programs.

“The way that he or she actually goes about their role can be quite significant, in my experience in this issue of diversity because he or she is day to day, involved in succession planning and recruiting and firing and everything else...” (Director 2)

However the overall direction would be,

“...clearly, subject to the CEO all the time.” (Director 1)

Although there may be other important actors who may have an effect on the organizational culture and on hiring and promotion decisions, the Chair is the key player for the board and the CEO for the firm in terms of setting the tone and direction. Nevertheless, it could be informative for future research to consider other aspects of organizational power and influence, such as the other executives just discussed.

## **6.9 Discussion**

These interviews provided important context for this study of board configurations

and their association with gender diversity at the most senior levels of FTSE 100 companies. Discussions with these highly experienced board members and advisors shed a light and provided a possible explanation for the wide variation in the gender balance of UK boards and insight into mechanisms that enable the trickle down-effect to levels below the board.

Some boards have done little more than adopt a box ticking exercise when it comes to meeting targets for WoB and have done very little else to create an environment where women can prosper, thrive and progress into more senior leadership roles with better gender integration at board level where women advance into roles with more power and influence. Importantly, the former approach constrains the trickle-down effect while the latter activates it.

A critical mass of WoB, while an important step in terms of breaking down gender stereotypes and overcoming token status, is not enough to establish a gender inclusive organization. Most agreed that a critical mass of WoB was not enough on its own to really influence the organization at board or firm level. Female directors in more powerful senior roles could have more influence on board decisions and may become involved in the mentoring or sponsorship of executive women but they stopped short of characterizing the presence of women in positions of power and influence as necessarily causing higher levels of gender diversity in executive levels. They did, however, agree that the presence of women in senior board roles sent important organizational messages about an organizations commitment to gender equality and provided senior female role models.

In terms of who has power and influence on the board, there was unanimous agreement. While some roles, like SID, committee chairs and interlinked directors may at times be influential, the power and influence of both the CEO and Chair, whether male or female, is substantial. The power and status they carry and the significant influence they have in setting the culture and tone of the organizations generally and the impact they have on board dynamics is considerable. For all aspects of organizational direction and decision making, their roles, especially when aligned, would set the tone for colleagues and

subordinates.

A key antecedent for improvements in gender diversity, is the support and commitment of senior male leaders like the Chair and the CEO. This would be evidenced by better gender integration at board level with women appointed to more powerful roles that could activate the trickle-down effect.

There was no consensus that women directors were actively advocating gender diversity issues leading to a trickle-down effect in executive levels. Their influence for improvements for gender diversity in the senior executive levels was mostly attributed the presence of WoB and their influence on improving board gender diversity was considered to be less of a causal force and more of a generative effect which may include both a trickle-down effect and a trickle-up effect.

## **6.10 Summary**

Whether a company adopts the prescribed governance principles on gender diversity responding to industry and societal pressures to improve gender diversity and transition to a more equitable culture will rest with those who have power and influence. The formal structural power as well as the social status conferred on the CEO and Chair, the two most senior roles in the organization, are of critical importance. Further, when both are aligned, the conditions for effecting cultural and structural change are optimized. The support of male leaders is a key antecedent in developing better integration of WoB which activates trickle down mechanisms and improves gender diversity below the board.

## **6.11 Limitations**

This qualitative research study and the resulting analysis is subject to a number of limitations. First, the sample was a small non-random sample focused on board members and experts who have been supportive of advancing gender

diversity in the U.K. Further, the sample was not gender balanced with more females than males which may give the comments and insight offered a more female perspective.

The data collected was based on open ended interview questions about the participants experience which could be affected by recall bias. Further, their perspectives could be affected by the human tendency to recall their actions in the best possible light and potentially reporting events more in line with present day thinking.

## **6.12 Implications on Future Research and Practice**

This study has helped to contextualize the finding of my configurational analysis and has highlighted the complexities associated with board dynamics and processes particularly in respect of the numbers, power and status of WoB. Of special interest is the role that high status, interlinked female directors play in initiating a culture change, the importance of the leadership of both the chair and the CEO and the role that women directors in positions of power play in improving gender diversity below the board.

The results of this research had been shared with both the CEO of the Hampton Alexander Review and the Chair, Sir Philip Hampton and Denise Wilson in March 2021. We discussed that WoB need to be in positions of power and influence in order to have real and sustainable impact on gender diversity below the board and that a focus on numbers alone is not likely to do adequately address the gender imbalance in executive roles, in particular CEO roles. Further, it will do little to address the 32 companies who, at the close of the Hampton Alexander Review, had yet to reach the 33% target for women board members. Interestingly, the new FTSE Women Leaders Review launched in February 2022, has for the first time included a recommendation that there should be one woman in a senior board role.

“FTSE 350 companies to have at least one woman in the Chair or Senior Independent Director on the Board, and/or one woman in the Chief Executive

or Finance Director role in the company, by the end of 2025.” (FTSE Women Leaders Review, 2022)

The FRC has adopted similar gender diversity targets to those in the FTSE Women Leader Review. Beginning in April 2022, all listed companies will need to disclose whether they have at least one woman in the one of the senior board positions (Chair, CEO, Chair or SID) or explain why not (Financial Conduct Authority, 2022).

While having a specific recommendation to have women in senior board roles is a significant step in the right direction, these roles are all significantly different in terms of their development and appointment processes and importantly each carry different levels of power and influence. Conflating them is likely to result in boards, especially those implementing a box ticking, to taking the path of least resistance and appoint women to SID roles. Of the three, candidates for SID roles requires very little development and the appointment process is much simpler. Unfortunately, I do not see this recommendation addressing the significant void of women in ED and Chair roles. Further, as these programs have both just been announced it is likely we will need to wait another three or four years to evaluate their effectiveness.

For academics, this study has opened up many new avenues for research. Further research could look at this phenomenon in different national contexts. A future QCA study could add a longitudinal aspect to examine how boards have evolved in terms of the numbers, power and status of WoB. There are also many opportunities for qualitative studies. An exploration of the power dynamics on boards could progress our understanding of how and where WoB are impacting gender diversity outcomes. For example, the QCA did not indicate that female committee chairs made a difference in terms of better gender balance in executive levels. a qualitative study to examine if and when female committee chairs take gender equity actions could provide useful insights. Another fascinating area to study would be the role that mentoring plays and how it influences the appointment rate for women to senior executive roles. Finally an

examination of the role of male leaders and what “gender inclusive gatekeepers” are doing to advance gender diversity versus those who are more “stewards of the status quo” would be very interesting.

## **7 INTEGRATING THE FINDINGS**

This study adopted a relatively new method called Qualitative Comparative Analysis (QCA). A QCA takes a set theoretic approach to analyze a number of theoretically important conditions and their association with an outcome of interest. This QCA study of the gender composition of UK corporate boards and its relationship with an outcome of 30% or more women in the two levels below the board was based on three theoretically relevant constructs, critical mass, power and status. The sufficiency solution produced by this analysis identified three distinct board configurations that are associated with better gender balance below the board. A key aspect of the QCA, a post solution analysis presented in Section 5.8. A post solution analysis is the opportunity to analyze the results of the QCA to enhance our understanding and meaning of the sufficiency solution. It is a qualitative approach, going back to the cases in order to contextualise and interpret the findings and theorize about underlying causal mechanisms (Greckhamer et al., 2018). As part of this post solution analysis I conducted eight interviews with senior FTSE non-executives and board advisors. In the next two sections I will summarize the key findings from the QCA and then explain how the supplementary interviews informed and reshaped the findings.

### **7.1 Qualitative Comparative Analysis**

A QCA is designed to identify patterns of association between causal configurations of conditions and an outcome of interest. Guided by a multi-theoretical framework integrating critical mass theory with theories of power and status (see section 3.5 ), I identified five conditions to represent the numbers, power and influence of WoB. Using data from FTSE 100 boards I conducted a qualitative comparative analysis (QCA) to examine what board configurations were associated with driving gender balance in the senior executive levels.

The analysis identified three equifinal board configurations that were associated with higher levels of women in senior executive roles. The data set analyzed included 96 companies in the FTSE 100 in 2020. At that time, there were 55

companies which had 30% or more female senior executives. The QCA identified 44 prototypical companies following one or more of the three pathways which were found to be sufficient in generating a 30% or more female executives in 89% of cases.

The following are key insights from the necessity and sufficiency analysis:

1. No single conditions were associated with better gender balance in executive levels. The fact that the analysis found no single condition consistently associated with higher levels of gender balance in the executive levels provides support for my configurational approach. Instead I found that it is the confluence of the numbers, power and status of WoB that is associated with better gender balance below the board.
2. A critical mass is not enough to activate trickle-down mechanisms. The power and status of the WoB matters. Board configurations with women in senior board roles like Chairs or SIDs or in ED roles like CEOs or CFOs were consistently associated with better gender balance in the executive levels. Forty of the companies in the analysis had board configurations with either a woman in Chair or SID role and/or a woman in a CEO or CFO roles. Each configuration had different complementary conditions. The configuration with the presence of one or more women in ED roles was complemented with a critical mass of WoB while the configuration with the presence of a female chair or SID or both was complemented by a critical mass of WoB who had a relatively high number of board interlinks. Both configurations were consistently effective in generating 30% or more of women in the executive levels. Further, while I was not able to construct conditions representing the presence of women CEOs and Chairs, I note that all companies with board configurations including a female CEO were associated with 30% or more women in the senior executive levels. Seven of the 8 companies with a female Chair appeared in the sufficiency solution and five of these were associated with 30% or more women in the senior executive levels. It was somewhat surprising that not all companies with female chairs

were able to drive better gender balance in the senior levels below the board, especially given the increasing expectation that boards are to ensure gender diversity is addressed in succession planning processes, however it speaks to the fact that CEOs have a significant say in both executive planning processes and executive appointments.

3. Highly experienced female directors may be more important than a critical mass of WoB in providing the initial impetus to transform board cultures to ones that embrace gender diversity. Contrary to critical mass theory, the findings suggest that interlinked female directors may play a more important role than a critical mass of WoB. Their status and reputation from their connections with other boards may improve board receptivity to gender equity related actions and enable trickle down mechanisms.
4. A high level of inconsistency for board configurations with various combinations of a critical mass of WoB, female committee chairs and female directors with multiple board interlinks indicates these configurations are not always able to activate trickle-down mechanisms and improve gender diversity below the board. Since these boards all had male Chairs and CEOs, who carry the most power and influence, it suggested to me that they may be acting to either enable or constrain gender diversity and the influence of female directors and their propensity to take gender equity related actions.

My interviews with board experts have helped to provide further insight to further contextualize these findings and provide some real-world perspective to my post solutions analysis. I discuss these in the next section.

## 7.2 Expert Perspectives

There were a few comments that were made during the interviews that stood out and have helped to develop the interpretation on of the QCA findings and post solution analysis. Some were relatively obvious and others were quite surprising, but they all contributed to enhancing my interpretation of how board gender diversity works to influence gender diversity below the board. They are:

- There are two types of boards: ones that have succumbed to external pressure and have placed more WoB, mostly to non-executive roles; and the second, who have moved beyond placing WoB in non-executive positions and further advanced gender integration on the board by appointing female directors to more powerful and influential roles.
- The respective power and influence of the Chair and the CEO. There was absolute consensus that the Chair is crucial for setting the tone and culture of the board, developing and mentoring directors, recruiting and selecting new directors and determining board assignments. Similarly, the CEO was seen as instrumental in setting the tone and culture of the organization with much authority and having significant control over who makes it to the executive committee.
- The role of male leaders in creating an environment where gender diversity can develop. Male leaders, in particular Chairs and CEOs, have a key role to play in either evolving the board and the company to be more gender integrated or in constraining its evolution. Chairs and CEOs who have supported further gender integration is seen in whether WoB are developed and advance into roles with more power and influence. Similarly, CEOs who are committed to building gender diverse and inclusive organizations will have also developed females and moved them into senior executive roles.

- The view that the presence of WoB, whether in numbers, power or status, was not causal but generative. In fact, most of the interview participants would argue that it was the men on the board that were more instrumental in changing the gender composition of the board. While it is certainly true, we would not have seen the progress we have without support from male leaders, and it is also true that women in senior executive levels are an important supply for non-executive roles. However, I would argue, and the interview participants would agree, that WoB can activate trickle-down mechanisms in a number of ways which include advocacy, signalling and role modelling.

Taking the perspectives of these board experts along with the findings of the QCA inspired the development of a model of board evolution. I discuss this in more detail in the next section.

### **7.2.1 Postulating a Board Evolution Model**

The QCA findings and in particular the post solution analysis and interview study allowed me to speculate on a board evolution model. The model postulates how boards have evolved from male dominated ones to ones that are not only gender balanced but are gender integrated, where women directors are also present in positions of power and influence. This model describes a causal sequence of how boards have evolved towards gender integrated boards. Figure 23 below, shows the key steps in this evolution.

The starting point, Step one, is the male dominated board, which was the prevalent model just ten years ago. Calls to increase the representation of women in senior leadership led to a number of initiatives in Step 2 including the Davies Review launched in 2011 and followed by the Hampton Alexander Review in 2016. During that time regulatory guidance was also enhanced with recommendations that firms should report on progress made on improving gender diversity in leadership roles or explain why not. More recently the investor

community has also been more vocal about their expectations for improved gender diversity applying additional pressure to boards who have been slow to evolve.

The third step shows the initial impact of these external pressures, where boards and their male leadership begin to yield and support the appointment of women directors to PLC boards. In this step, we begin to see an initial divergence in the gender composition of boards evidenced by large variations in percentage of WoB on a company-by-company basis. At this point, it is also important to note that most of these appointments were to NED roles with very few women moving into more senior non-executive board roles like Chairs and SIDs. Similarly, there had been little progress in the number of female EDs and virtually no change in the numbers of female CEOs.

The fourth step is where the evolution of the board diverges further. In this step some companies continue their evolution and progress women directors into more senior non-executive board and ED roles. Here, I suggest that the championing of senior male leaders, specifically the Chair, is a key antecedent for this step in the evolution. Male leaders, when so inclined, can serve an inclusive gatekeeping role (Dwivedi, Joshi and Misangyi, 2018) and board chairs are key decision makers in board development and in the selection and appointment of board members. Different than in Step 3, where chairs may have yielded to external pressure, appointing women to these more powerful roles, which was not required or recommended by external stakeholders, is evidence of a more authentic commitment to gender diversity.

The QCA solution provides a strong rationale for the development of gender integrated boards, showing that companies whose boards have evolved to be more gender integrated are consistently associated with the more essential goal of improved gender diversity below the board. Referring back to the QCA solution, the configurations in the sufficiency solution can be characterized to represent boards at different points in their evolution. Configurations (C1, C2) represent boards where women directors have been fully integrated and are represented in either senior non-executive boards roles like Chairs and/or SIDs

or in EDs roles like CEOs and/or CFOs. These configuration represent the confluence of boards with women in their numbers, power and status and are effective in driving better gender balance in the executive levels. In fact, boards with one of these configurations have some of the highest percentages of women in the senior executive levels in the FTSE 100.

Configuration 3 (C3) represents a board earlier in the evolution process. Here I have argued that the influence of experienced (interlinked) board members has begun to shift the board culture (see Section 5.6) and as a result is showing an initial positive impact on the gender diversity in the senior executive levels. Here I would argue that the high status associated with interlinked female directors has had an important role in the socialization process that has helped to legitimize both the presence and contributions of female directors. This is consistent with other research that has shown that the experience and status that comes from network connections with other boards heightens the interlinked director's authority and facilitates their influence on board decisions in a way that less experienced female directors may not (Cook and Glass, 2015a; Öberg, 2021).

The QCA findings suggest that when female directors have proportional representation as well as power and status on the board, trickle-down mechanisms are consistently enabled and the trickle-down effect is most effective. Step five denotes the trickle-down mechanisms inferred in my QCA analysis and include advocacy, signalling and role modelling.

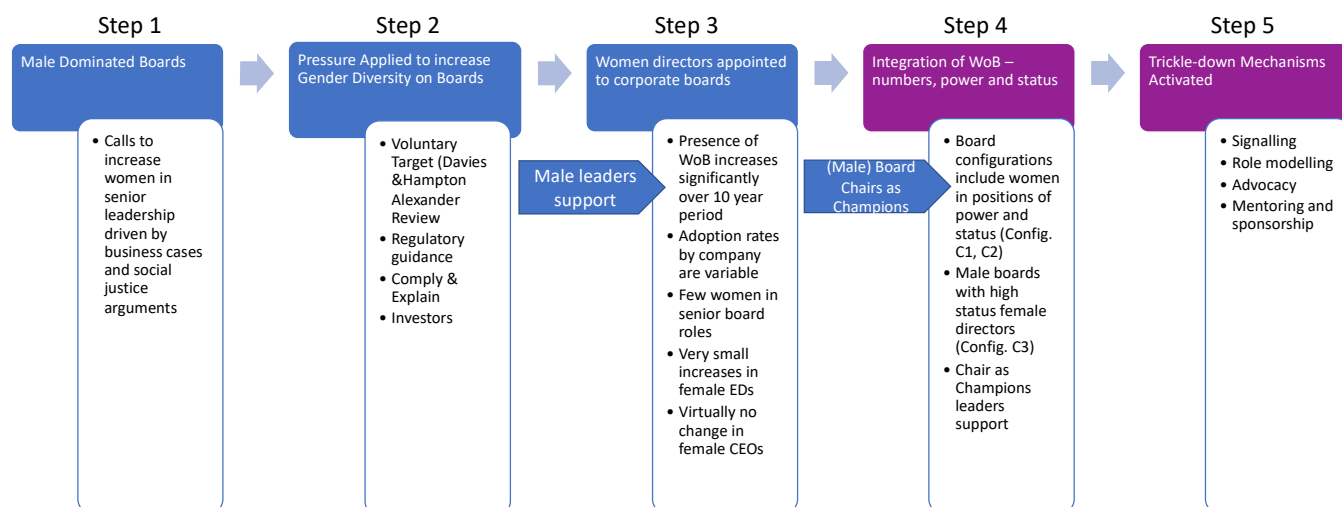
The model highlights some key milestones in the evolution of the board from the traditional male dominated ones that are gender integrated. (refer to Figure 23)

The key events include:

1. external pressure from industry, regulators and investors
2. acquiescence of boards and board Chairs to appoint women as corporate directors
3. support and championing of male leaders, specifically the Chair, to appoint women to board roles with power and influence (i.e. senior non-executive board roles and ED roles)

While the model shows the important. gender inclusive gatekeeping role of male leaders, specifically the board chair, which is an important aspect in shifting the tone and culture of the board and the organization, it is important to note that the trickle-down effect is only consistently observed when board configurations exhibit the confluence of women directors with number, power and status. In other words, while male Chairs and CEO may be key to initiate the required culture change, it is only when boards are more fully integrated with female directors will the trickle-down effect be fully effective.

**Figure 23: U.K. Board Evolution Model**



In the section below I examine three FTSE boards with gender integrated board configurations C1 and/or C2 and look at their historical configurations to show how their evolution is consistent with the proposed model.

## 7.2.2 Examples of FTSE 100 Board Evolution

The board evolution model recognizes the role of interlinked female directors and proposes that they are a key aspect in the board evolution process. To explore this further, I looked at boards that are what I am calling fully gender integrated (Step 4 in the board evolution model in Figure 23 above, with board configurations C1 and/or C2) to see what their board configurations looked like historically. I identified three companies who have had, until very recently, male dominated boards. These three companies until recently did not have a critical mass of WoB but each of the female directors were highly experienced with the multiple NED roles on public boards. Figure 24 below, shows three companies, Aviva (at January 2019), Taylor Wimpey (at January 2018) and NatWest (at January 2017). The second half of the chart shows how the board has since evolved and each has, as of August 2022, women in one or more powerful roles on the board as well a critical mass of WoB. Aviva has a female CEO and an incoming female CFO, Taylor Wimpey has both a female CEO and Chair and NatWest has a female CEO and CFO. Interestingly the female NEDs now have far fewer interlinks. This suggests that when boards are fully gender integrated, they may be more open to appointing next generation NEDs, providing a valuable development opportunity for women.

**Figure 24 - Examples of Board Evolution**

	AVIVA PLC	TAYLOR WIMPEY PLC	NATWEST PLC
<b>WOB</b>	January 2019	January 2018	January 2017
	27%	22%	18%
	<b>Current # Public Boards</b>	<b>Current # Public Boards</b>	<b>Current # Public Boards</b>
	<b>Female Directors</b>	<b>Female Directors</b>	<b>Female Directors</b>
	Romana Garcia 6	Angela Knight 5	Penelope Hughes 18
	Patricia Cross 7	Dame Katharine Barker 3	Baroness Sheila Noakes 7
	Claudia Arney 6		Alison Davis 9
	August 2022	August 2022	August 2022
	WOB 36%	44%	36%
<b>WOMEN IN POWERFUL ROLES</b>	Female CEO & CFO (09/2022)	Female CEO & Chair	Female CEO & CFO
	<b>Current # Public Boards</b>	<b>Current # Public Boards</b>	<b>Current # Public Boards</b>
<b>INTERLINKED DIRECTORS</b>	<b>Female Directors</b>	<b>Female Directors</b>	<b>Female Directors</b>
	Amanda Blanc, CEO 1	Jennifer Daly, CEO 1	Alison Marie Rose-Slade, CEO 2
	Andrea Margaret Blance 3	Irene Dorner, Chair 4	Katie Murray, CFO 1
	Shonaid Jemmett-Page 3	Clodagh (Clo) Moriarty 1	Doctor Yasmin Jetha 1
	Philippa Lambert 1	Scilla Grimble 2	Doctor Lena Cooper Wilson 3

This board evolution model has been informed by the findings of the QCA study which included the supplementary study of interviews with U.K. board experts. While speculative it takes the insights provided by this study and postulates how organizations and key role holders in organizations have responded to the policy interventions and industry and societal pressure for improved gender diversity in UK companies.

### 7.2.3 Mechanisms

Research has investigated and theorized about a number of mechanisms that could be responsible for the trickle-down effect. These mechanisms can be both passive and active. Passive mechanisms are associated with the reputational benefits where WoB signal a female friendly organization committed to gender diversity or where WoB are senior role models for women aspiring to senior

leadership roles. Active mechanisms involve WoB taking gender equity related actions like advocating for specific female candidates, calling for gender balanced recruitment processes or by providing mentoring, sponsorship and networking opportunities for high potential female employees. While there were differences of opinion in whether WoB were engaging in active mechanisms there was agreement on the signalling and reputational benefits of WoB for women in the executive pipeline.

One reason for the inconsistent perspectives on advocacy related actions may be due to the receptivity of the board environment. After all there were a number of boards in my analysis with configurations of women in positions of influence and power (refer to discussion in section 5.9.2) where trickle-down mechanisms were inconsistent. Where trickle-down effect was observed, the agency of male leaders, in particular the chair, is likely to have been the differentiating factor. When male Chairs are supportive and create a gender inclusive environment, trickle-down mechanisms are enabled which activate the trickle-down effect. This provides additional support for the role of male leaders in step 3 and 4 of the board evolution model.

#### **7.2.4 Causal Effect**

The sufficiency solution in a QCA analysis is said to reflect causal configurations because it is based on empirical evidence and where there is no empirical evidence (i.e. no observations of logically possible configurations), theoretical expectations are used to complete the sufficiency solution. Especially when there is high coverage and high consistency, the presence of the outcome is dependent on whether or not one of the configurations is present. In the sufficiency solution both the consistency (.89) and the coverage (.77) were relatively high so it was a bit surprisingly that none of the interview participants would necessarily agree that the presence of WoB or even women in positions of power, has a causal relationship.

This could be due to a number of reasons. It could be that their individual experience did not consistently support this. Or it could be that they were thinking about the individual effect of one female director rather than the confluence of WoB in roles of numbers, power and influence.

### **7.2.5 Contributions**

This thesis makes a number of contributions to knowledge. The research contributes to the WoB literature by examining the overlooked aspects of the power and status of female directors. This study takes a multi-theoretic approach incorporating aspects of both formal and informal power in addition to the critical mass thesis in analyzing the gender composition of boards and how this relates to the gender balance in the executive levels. This was the first study to adopt the theoretical lens of power and status as well as a critical mass of WoB when studying the impact of the gender composition of corporate boards on gender diversity below the board.

The methodological approach adopted in this research moves away from the dominant positivist methodology relying mainly on regression analysis and employs a QCA, a relatively new methodology for WoB research. A QCA is a configurational approach that embraces causal complexity by examining conjectural causation, the evaluation of the effects of several explanatory variable in combination, on an outcome. This methodology was key in conducting a more nuanced analysis of UK corporate boards.

This research has also resulted in a more speculative piece of work. The board evolution model presented in section 7.2.1 postulates how boards have evolved from male dominated ones to ones that are gender integrated and how this gender integration is important in activating the trickle-down effect.

I expand on these contribution in the sections below.

### **7.2.5.1 Theoretical**

From a theoretical perspective this research submits that the utility of critical mass theory in WoB research in terms of explaining the relationship between a specific percentage of female directors and their ability to influence organizational outcomes, in this case the trickle-down effect, has been inflated. When and how the gender composition of corporate boards affect board dynamics, board decisions and ultimately outcomes is dependent on characteristics that extend beyond numeric representation. Instead this research shows that the power and status of female directors are important aspects and it is the confluence of female directors numbers, power and status the drive gender diversity in the senior levels below the board.

#### ***Critical Mass Theory***

Research on gender diversity in organizations has been significantly influenced by Kanter's influential book *Men and Women of the Corporation* (Kanter, 1977a). While her thesis acknowledged the structural factors of power, opportunity *and* proportional representation on employees' experience at work and their career mobility, most research on board gender composition examines only the numbers or relative proportions of WoB (DiTomaso, Post and Parks-Yancy, 2007; Ibarra, 2004) where WoB researchers rely on critical mass theory and associated theories of tokenism for their theoretical underpinning.

Critical mass theory posits that proportional representation must reach a certain level for minorities in a group to have the ability and capacity to contribute to and influence group decisions. Commensurate with critical mass theory, developing a critical mass of WoB has been presumed to be necessary to reduce stereotypes, facilitate the dismantling of gendered organizational structures and practices that favour men and enable women to have a meaningful say in board decisions and organizational outcomes. Research on the trickle-down effect, however, been equivocal (Bertrand et al., 2019; Gould, Kulik and Sardeshmukh, 2018). Further, some more recent studies have found that the presence of a

critical mass of WoB is not always sufficient for their influence to be realized finding instead that the ability for women directors to influence boards discussions, decisions and outcomes may depend on the level of power or status they hold (Beckman and Phillips, 2005; Cook and Glass, 2015a; Furlotti et al., 2019; Glass and Cook, 2018; Tate and Yang, 2015). Taken together, this suggests that critical mass theory may be limited in predicting when WoB can influence gender balance below the board.

In order to address the unclear influence of a critical mass of WoB and the overlooked aspects of their power and status, the theoretical framework outlined in section 3.5 integrates the constructs of power and status along with the proportional representation (i.e. critical mass) of WoB in analyzing the gender composition of boards and how this relates to the numbers of women in the executive levels. The QCA described in Chapter 5 examines the influence of both women's numerical representation on boards *and* their status/power and finds that who has power and status on the board is indeed a key part of the equation.

The findings of the QCA provide empirical evidence that a critical mass of women on FTSE 100 boards is not enough on its own to activate trickle-down mechanism as it is neither necessary nor sufficient in its association with improved gender diversity in the executive levels. This suggest that meaningful participation may not necessarily be a function of numeric representation as critical mass theory suggests and the ability to take gender equity related actions like advocating for other women can be overshadowed by those who have more power and influence. Moreover, the beneficial aspects that WoB provide in terms of signalling or role modelling can be diminished if their presence is not perceived to genuinely reflect an organization's commitment to gender diversity. Even though there may be a critical mass of WoB, if there is no other evidence that the company has taken further steps to dismantle gendered processes or proactively address gender diversity, their credibility as a gender diverse and inclusive organization will be affected.

While developing a critical mass of WoB has improved the descriptive representation of women in leadership (i.e. their proportional representation), it does not necessarily lead to the trickle-down effect which would represent an improvement in the substantive representation of women in executive leadership.

#### **7.2.5.1.1 Power and Status**

Power and status has largely been an overlooked aspect of WoB research (DiTomaso, Post and Parks-Yancy, 2007; Ely, 1995; Hambrick, Werder and Zajac, 2008). Indeed, a key emphasis in the corporate governance literature addresses agency problems by examining board structures and the balance of power between the CEO and their TMTs and the board. An emerging stream of WoB research is perhaps beginning to address this omission with research and findings that suggest that the ability for women directors to influence boards discussions, decisions and outcomes may depend on the level of power or status they hold (Beckman and Phillips, 2005; Cook and Glass, 2015a; Furlotti et al., 2019; Glass and Cook, 2018; Tate and Yang, 2015).

This research also recognizes this omission and takes it one step further by considering power and status in combination with the numeric representation of female directors on corporate boards and their association with better gender balance in the senior executive levels. My theoretical framework integrates the critical mass thesis with theories of power and status, all three of which have been shown to influence board outcomes. The findings show that the power and status of female directors are key aspects in activating and producing the trickle-down effect. This configurational analysis of FTSE 100 boards reveals three board configurations that are conducive to driving better gender balance in the levels below the board. The three configurations indicate that it is the combination of women holding directorships along with their presence in influential roles that improves the gender balance in the executive levels.

In summary, this multi theoretic approach has provided strong empirical evidence that female directors on corporate boards when represented in their numbers,

power and status indicate gender integrated boards and gender integrated boards are key to consistently activating trickle-down mechanisms.

#### ***7.2.5.1.2 Postulating a Board Evolution Model***

In addition to these theoretical contributions, these findings and in particular some insights provided during the interviews with UK board experts allowed for the development of a board evolution model. Although it remains speculative, future research to extend and validate the model would provide valuable theoretical and practical insights

This model was developed after integrating the comments made by the interview participants with the results of my QCA. Section 7.2.1 discusses how the QCA, post solution analysis and interviews with board experts informed the elaboration of this model. It shows how external pressure for increasing the presence of WoB has been an important first step to prompt boards to add more female directors. It further suggests that interlinked female directors have had an important role in the socialization process that has helped to legitimize both the presence and contributions of female directors. The model also shows that the support and backing of male leaders are key antecedents to (1) the initial appointment of female directors and, (2) the further integration of WoB in developing a gender integrated board. While the model shows the important. gender inclusive gatekeeping role of male leaders (Dwivedi, Joshi and Misangyi, 2018), specifically the board chair, it is important to note that the trickle-down effect is only consistently observed when board configurations exhibit the confluence of women directors with number, power and status. In other words, while male Chairs and CEO may be key to initiate the required culture change, it is only when boards are more fully integrated with female directors will the trickle-down effect be fully effective.

This study has filled an important gap in the WoB literature by incorporating aspects of power and influence along-side the proportional representation of WoB to identify board configurations conducive to generating better gender balance in executive levels. The findings indicate that critical mass is neither necessary or sufficient is activations and producing the trickle-down effect. The

descriptive or proportional representation of WoB may be an important step but the power and influence that female directors hold is a key part of the equation. Gender integrated boards, where the female directors are represented in their numbers, power and status is what is needed to drive better gender balance in the executive levels.

## **8 IMPACT ASSESSMENT**

### **8.1 Introduction**

This research contributes to the overarching goal of gender equality and women's empowerment. A global goal, this ambition was adopted by all UN member states in 2015 as one of the 17 Sustainable Development Goals to develop a more sustainable and prosperous future for all. With an aggressive 15-year plan to achieve them, gender equality and women's empowerment was number five and the mainstreaming of gender and inclusion was reflected in the other 16 other goals (Dustin et al., 2016). At the half-way point to 2030, progress on many goals is falling short and the effects of Covid-19 looks to have set back and threatened achievement of many of these goals and objectives. In the 2020 Sustainable Development Goals Report, equality and empowerment were part of UN Secretary-General, António Guterres message, calling for a re-doubling of efforts in "winning the race against climate change, decisively tackling poverty and inequality, truly empowering all women and girls and creating more inclusive and equitable societies everywhere." (United Nations, 2021).

A key strategy to promote gender equality from a public policy perspective has been initiatives to improve the representation of women on corporate boards. Many countries have introduced gender quotas for WoB, starting first in Norway and later adopted in a number of European countries. Others, like the UK, have taken a voluntary approach. Most of the quota programs, voluntary targets and comply or explain programs have been focused on increasing the number of WoB, however, these programs were also an attempt at a top-down approach to improve gender diversity in organizations more broadly. The objective was not only to increase opportunities for the very small percentage of women achieving a seat on the board, but to create a pull through the corporate pipeline that would encourage and support women's progression throughout their careers and visibly demonstrate that accessing higher levels of corporate leadership was indeed a possibility. Notwithstanding this overarching goal, the attention and focus has largely been on the numbers of women reaching the board room both from a regulatory perspective as well as in academia.

The UK is one of the only major countries taking a voluntary approach to improve gender diversity on plc boards and in senior executive levels with a business led, government sponsored program. The Davies Review was launched in 2010 under the leadership of Lord Davies of Abersoch, then Minister of State for Trade, Investment and Small Business. The Davies Review ran from 2011-2015 and was followed by the Hampton Alexander Review (2016-2020) led by Sir Philip Hampton and Dame Helen Alexander. Both reviews have been important and successful initiatives that brought into focus and set clear targets to address the lack of WoB and in leadership positions of UK PLCs. While both programs have achieved their respective targets in the aggregate, on a company-by-company basis the results have been uneven and improvements in women in senior executive roles has been unacceptably slow, in particular for women CEOs.

This research has been oriented around these government sponsored reviews and coincides with the conclusion of the Hampton Alexander Review marking the end of a ten-year business led campaign to improve the gender diversity in the leadership of UK PLCs. As the government was considering the next step to support gender diversity in the workplace, these findings offered new insights and highlighted potential areas to target with new objectives and programs.

This study examined the numbers, power and status of women directors and what this means for gender diversity below the board. This study has added to the research on the impact of WoB on diversity outcomes in two important ways. First, it adds to the research on the trickle-down effect employing a relatively new methodology designed to examine various configurations of interdependent conditions that may explain the outcome better rather than isolated ones. Secondly, it extends previous studies by incorporating not only the numbers thesis (the proportional representation of women directors) but also considers the difference in power and status of women directors and how this is associated with improved gender balance below the board. This more complex approach has yielded new insights in the importance of power and status in understanding the relationship between women directors and women in the executive pipeline.

The findings offer broad support for the necessity of developing a critical mass of women board members but suggest that another Review focusing on numbers only is not likely to result in much needed progress for women in important key roles like CEOs and Chairs. Already the percentage of NEDs in FTSE 100 was over 43% in the Hampton Alexanders final year report even though there were still 32 companies yet to reach the Hampton Alexander Review target of 33% for women directors and only 37 companies who reached this target for women in senior management. Progress for women CEO and Chairs has shown the most resistance, although there was a welcome uptick for female Chairs in 2020 (Hampton Alexander Review, 2021).

## **8.2 Research Impact**

The Economic and Social Research Council (ESRC) defines research impact as “the demonstrable contribution that excellent research makes to society and the economy.” (UK Research and Innovation, 2022)

This impact can include:

- Instrumental impact - directly influencing the development of policy, legislation and practice
- Conceptual impact – contributing to the understanding of policy issues by introducing new concepts and analyses
- Capacity building – personal development and technical training

### **8.2.1 Instrumental Impact**

Instrumental impact refers to research that influences policy, practices and services. This study has provided important context for ministers, regulators and business leaders considering how the next phase of the government backed, business led initiative should be structured. Notably, this research suggests that a continued focus on developing a critical mass of female directors alone will do little to improve the gender balance in executive levels. Further, it will do little to address those companies who have yet to follow policy guidelines and have missed meeting industry targets for ten years. It does suggest, and provides empirical evidence, that when boards have a critical mass of female directors along with women in senior board roles, we do see higher levels of women in senior management.

### **8.2.2 Conceptual Impact**

Conceptual impact relates to how research can contribute to the understanding of policy issues, helping to inform and bringing new perspectives to the debate. This research has helped to move the conversation away from a focus merely on the numbers of WoB and incorporates into the discussion the important aspects of power and status in various board roles, women's representations in them and how they relate to gender diversity below the board.

### **8.2.3 Capacity Building**

Capacity building refers to the contribution to excellent research from personal and/or technical skills development. In addition to learning research skills during my DBA, I have attended a number of workshops and training courses. These included a number of workshops to develop an understanding and competency with a relatively new methodology, Qualitative Comparative Analysis (See Appendix C for certificate received for QCA). The use of this methodology has allowed for a more complex view and analysis of the gender composition of

corporate boards and its association with the gender balance in the executive levels of corporations. This approach employs the use of data while also allowing for a qualitative aspect to the analysis and interpretation of the findings. This mixed methods approach was particularly important for both government and business sponsors. While qualitative studies are able to provide a richer analysis and interpretation, there still seems to be a bias for quantitative research that is 'data driven' and therefore more easily accepted as objective.

### **8.3 Workshops, Seminars & Courses**

Below are a number of workshops, seminars and courses attended during the DBA program.

#### **June 2019: Gender and HRM: Advances, Challenges and Future Directions**

I submitted and presented a paper called **“The Impact of the Gender Composition of Boards on the Gender Composition of Senior Management Positions”** to the Gender in Management Special Interest Group at British Academy of Management. This was a first opportunity to socialize and get feedback on my research topic.

#### **Sept 2020: Qualitative Comparative Analysis in Management Research**

This was an introductory course on Qualitative Comparative Analysis (QCA) for management studies. The content included a brief historical overview on the method, an introduction of the set theoretic methodology and its application and some examples of small to medium-N case studies. This was my first introduction to the method and formed the basis upon which to conduct an initial QCA study of the FTSE 100 companies.

### **May 2021: Qualitative Comparative Analysis in Management Research**

This course was similar to the one I attended in September 2020, however, since I had already conducted my study, I was able to use this opportunity to clarify some questions that had come up, discuss how I had applied the methodology and get feedback on some of my interpretations. We were also asked in this course to provide a paper for review. I received detailed written feedback which was very helpful in improving my discussion of the methodology, as well as fine tuning my findings and interpretations.

### **Jan 2020 - Cranfield Doctoral Colloquium**

Here I presented my research “The impact of WOB on gender diversity below the board”, which included my QCA analysis of the FTSE 100 companies.

### **Jan 2022: British Academy of Management Online Workshop: Preparing Your Conference Paper**

I attended and submitted an extended abstract for a conference submission. In the latter part of the conference, we were split into small groups where each of us received feedback on our abstract. My key takeaway was to ensure that I am clear on what my contribution was.

### **May 2022: Qualitative Comparative Analysis Advanced Topics**

Topics were: Robustness Tests - Theory Evaluation - Set-Theoretic Multi-Method Research (SMMR) - Enhanced Standard Analysis (ESA) - Integration of Time. This was a seminar covering some of the more advanced topics in QCA. In particular, the insight on robustness tests and use of QCA for theory evaluations was incorporated in this thesis.

## **8.4 Engagement with Policy Makers and Influencers**

While I did have my own areas of interest it was important to align and structure my research with government and organizational priorities in mind. My interest in this subject area is related to my own personal experience, first being the only woman in many of the management teams I have been involved with and secondly as a 'token' female non-executive director. Currently I am not in an executive position and while I do sit on a board of directors as a non-executive, the company has been sold as so it is not possible to have direct impact via these channels. Therefore, aligning my research with governmental and organizational priorities was key to develop relevance and impact for my research project. The impact, therefore, is targeted on stakeholders and partners of the government sponsored initiatives to improve gender equity in FTSE companies and more broadly on society, the economy and women in or aspiring to be in senior leadership positions.

### **8.4.1 Initial Meetings**

Early in the doctoral process I attended a number of meetings with government departments to develop an understanding of the current direction of government and policy initiatives to help determining and align my research objective. I had the opportunity to meet with two government groups to get an understanding of government priorities.

#### **1. November 2018 – meeting with Head of Gender Pay Gap Reporting and a number of senior policy advisors at the Government Equalities Office (GEO)**

The Government Equalities Office (GEO) is responsible for a range of equities legislation including policy work relating to women, sexual orientation and transgendered citizens. Two key priorities for GEO are eliminating the gender pay gap, primarily through the Gender Pay Gap reporting program, and improving

female career progression by increasing the number of women on FTSE 350 boards.

## **2. December 2018 - Meeting with the Behavioural Insights Team**

The Behavioural Insights Team was set up to conduct research on individual behaviour to inform policies and interventions focused on enabling individuals to make better choices for themselves and society at large. This team also worked with the GEO to prepare the publication “*Reducing the gender pay gap and improving gender equality in organisations: Evidence-based actions for employers*”. It summarises actions employers can take to close their Gender Pay Gaps. Much of their research is field based studies to provide evidence-based strategies, a lot of which has been focused on gender equality issues.

## **8.5 Industry Reviews**

In addition to these meetings, I was also able to gain deep insight into both the Davies Review and the Hampton Alexander Review. Professor Sue Vinnicombe has been on the steering committee of both the Davies Review (2011-2015) and the Hampton Alexander Review (2016-2020) and therefore has extensive knowledge and history about these reviews including extensive contacts in both government and business.

## **8.6 Government Priorities**

The two meeting with government officials, and discussions with Professor Vinnicombe were helpful in providing context and understanding of policy initiatives and government priorities. GEO’s two priorities as it relates to gender diversity, namely addressing the gender pay gap and increasing the number of women on FTSE 350 boards, were key aspects informing my research project.

## 8.6.1 Gender Pay Gap

The gender pay gap is key program for the GEO. This key metric is intended to quantify and monitor gender inequities in the workforce. The gender pay gap measures the overall differences in pay between men and women across a workforce. It captures differences in male/female representation in both the vertical and horizontal segregation of jobs. The horizontal segregation refers to the different occupations held by men and women where men have been traditionally clustered into higher paying jobs and women in lower paying ones. Vertical segregation refers to the placement of men and women in the organizational hierarchy where traditionally men occupy more of the senior or higher paying jobs and women occupy more of the junior or lower paying ones.

While the gender pay gap is not meant to measure unequal pay, which is illegal in many jurisdictions, this type of discrimination still happens. Legislation like the Equalities Act in the UK requires that men and women performing the same job be paid the same pay. This is, however, somewhat difficult to police and companies, even big ones, continue to discriminate against women when setting pay and allocating bonuses. Take for example the recent case against BNP Parabis where a UK tribunal found that a female employee was paid a shocking 85% less than her male colleagues (Szalay and Croft, 2022).

While the long-term trend has been to narrow the wage gap, progress has slowed significantly and remains substantial in some areas, both in terms of horizontally segregation as well as in vertical segregation. Gender wage gap improvements have largely been made in the lower end of wages. In particular, women remain underrepresented in high paying jobs and senior leadership positions resulting in a persistent and larger gender wage gap at the top end of the wage distribution (Goodwin-White, 2018, Arulampalam et al, 2007, Workers, 2011).

## 8.6.2 Women on FTSE 350 Boards

A second priority for government has been to increase the number of women on FTSE 350 Boards. These efforts have been conducted primarily through two government sponsored, business led programs. The Davies Review ran from 2011-2015 and was followed by the Hampton Alexander Review from 2016-2021. These two reviews were the result of a unique collaboration between government and business to address the lack of gender diversity on boards and in senior leadership roles with a voluntary, business led approach. A number of government offices provided resources and support and were key stakeholders for these reviews. Table 23 below provides information about three key government stakeholders including the Department for Business, Energy and Industrial Strategy, the Government Equalities Office (GEO) and the Financial Reporting Council (FRC).

**Table 25: Government Stakeholders**

<b>The Department for Business, Energy and Industrial Strategy (BEIS)</b>	<b>The Government Equalities Office (GEO)</b>	<b>Financial Reporting Council (FRC)</b>
BEIS is a ministerial department responsible for developing and delivering the governments industrial strategy, managing the government's relationship with business, and responsible for science and innovation and climate change.	GEO is responsible for the government's equality strategy and legislation.	The FRC is the UK's independent regulator promoting high quality corporate governance and reporting. Responsible for setting standards for corporate reporting in the UK Corporate Governance Code and monitoring and enforcement of financial accounting and auditing standards.

The insight gained from these meetings eventually led to the formulation of a research objective that could effectively address government priorities. By looking at the impact of WoB, the roles they hold and how these board configurations relate to gender diversity in senior levels, this research provides a new rational and perspective on the importance of WoB and their potential to improve gender balance in the executive pipeline (and consequently reduce gender wage gaps).

## **8.7 Meetings to Share My Empirical Work and Research**

### **Findings**

**1. March 2021 – A zoom meeting was held with Denise Wilson, the Chief Executive, Hampton Alexander Review.**

This meeting followed the final release of the Hampton Alexander Review in February 2020. At this meeting, Ms. Wilson was lamenting that they were not able to find any statistically significant correlations between WoB and women in the executive levels of the FTSE companies. This was obviously welcome news and a good segue into my research. Our discussion was focused on my research findings which highlights the importance of having women directors in roles of power and status and stresses that appointing women to non-executive roles had very different consequences to having women appointed to positions of power like the Chair and the CEO, particularly on the gender balance in the executive levels.

**2. May 2021 - a zoom meeting with Policy Lead, Women in Leadership Team Gender Equality Policy and Analysis Division (GEPAD) Government Equalities Office, Cabinet Office.**

This was a follow up meeting to socialize the results of the Qualitative Comparative Analysis which was received with interest. We also had a discussion about what the government's next step would be following the final report of the Hampton Alexander Review. At this meeting, we were advised

that no commitments had yet been made as the government's attention has been focused on other matters including the pandemic.

### **3. May 2021 – Meeting with GEO Data Analysts, Government Equalities Office, Cabinet Office**

A second meeting was set up with the GEO data analyst team to introduce the QCA study, which was received with interest, in particular the methodology used.

## **8.8 Dissemination**

### **8.8.1 The Female FTSE Board Reports**

I was invited to participate in the 2020 and 2021 Female FTSE Board Report. The Female FTSE Board Report is an annual report produced by Cranfield University and funded by corporate sponsors. The first report in 1999 was a product of the Cranfield International Centre for Women Leaders, founded by Professor Sue Vinnicombe. This report was the first of its kind, targeted to practitioners and provided details on current metrics and trends for WoB. It has come to be regarded as the leading research resource on WoB in the UK and has generated an international following. Each report also includes a research study conducted by Cranfield academics on a relevant topic and concludes with practical recommendations and steps organizations can take to drive their diversity and inclusion agenda. This report was also one of the first to highlight the lack of female executive directors and other roles of influence such as board and committee chairs.

The 2020 Report entitled – '*Taking Targets Seriously*' included a section of my preliminary analysis of the board configuration of women directors in terms of numbers, power and status.

The 2021 report again led by Professor Sue Vinnicombe was entitled *'Inclusion Works for Everyone'*. This report included the final results of my configurational analysis of FTSE 100 boards.



The 2020 and 2021 reports were both sponsored by EY. The launches were accompanied by press releases. The 2021 launch was done via a webcast hosted by EY with opening remarks from Alison Kay, EY UK&I Managing Partner Client Service, and David Tyler, Chairman of Domestic & General followed by a panel discussion with:

- Arun Batra, EY Partner and CEO of the National Equality Standard,
- Isabel Collins, Founder, Belonging Space
- Fiona Daniel, CEO & Founder, FD2i
- Steve Ivermee, Partner, EY
- Mark McLane, Head of Diversity, Inclusion, and Well-being, M&G plc
- Asif Sadiq MBE, SVP Head of Equity and Inclusion, International, Warner Media.

The 2021 launch had over 900 registrations and the 2020 had approximately 300. The reports continue to be available for download on a number of

websites including: EY ([https://www.ey.com/en\\_uk/diversity-inclusiveness/why-meeting-boardroom-targets-is-only-one-step-towards-gender-equality](https://www.ey.com/en_uk/diversity-inclusiveness/why-meeting-boardroom-targets-is-only-one-step-towards-gender-equality)), FTSE Women Leaders (<https://ftsewomenleaders.com/further-reading/>) and Cranfield University (<https://www.cranfield.ac.uk/femaleftseboardreport>).

### **8.8.2 Interviews with Experts**

The interviews with the board experts were impactful in a number of ways. First, they provided insight into the findings and interpretations of the QCA analysis. Further, these interviews were an important opportunity to socialize and discuss the findings of this research with a number of high-profile experienced board directors and advisors. Table 24 below shows details on the backgrounds of eight interviewees. The five board members have extensive UK corporate board experience and have collectively sat on 32 UK public company boards with experience in all the positions considered in this analysis including Board Chairs and CEOs. The three board advisors have worked extensively in FTSE companies and collectively have over 49 years' experience in executive and board search.

**Table 26: Profiles of UK Board Experts**

	GENDER	EXPERIENCE		POSITIONS HELD			
		YEARS OF BOARD EXPERIENCE	# OF PUBLIC BOARDS	BOARD CHAIR (PUBLIC)	SID	COMMITTEE CHAIR	ED
<b>BOARD MEMBERS</b>							
DIRECTOR 1	M	24	9	3	1	6	3
DIRECTOR 2	M	24	9	5		6	1
DIRECTOR 3	F	11	3			3	
DIRECTOR 4	F	17	9	2	1	8	1
DIRECTOR 5	F	14	2				1
		<b>90</b>	<b>32</b>	<b>10</b>	<b>2</b>	<b>23</b>	<b>6</b>
		<b>YEARS OF EXPERIENCE</b>	<b>TYPE OF EXPERIENCE</b>				
ADVISOR 1	F	17	executive search and board appointments				
ADVISOR 2	F	16	executive search and board appointments				
ADVISOR 3	F	16	board chair development and board effectiveness reviews/leadership, succession and career management				
		<b>49</b>					

## 8.9 Choice of Empirical Project

Initially I had thought that I would do a number of semi-structured interviews with women in senior management to gain an understanding of the lived experience of women moving up the executive pipeline. I was interested in exploring what the impact and meaning of having women on the board meant to their executive careers and whether women in roles of power and status were more influential on the organization or on them individually in terms of their motivation and aspiration to move up the pipeline into senior executive positions. However, after considering the discussions with government departments, I wanted to extend research on the role and influence of women directors and position the study to evaluate presence of WoB relative to diversity in the upper levels of the organization.

Developing a study taking this perspective would align better with two existing government priorities. First, the goal to increase the number of women directors on FTSE companies and secondly to address the gender wage gap. As discussed earlier the gender wage gap is the largest at the senior levels and therefore a study illuminating these relationships between WoB and increasing gender diversity in senior levels could be helpful in developing targeted strategies

to improve the presence of women in senior levels and consequently reduce gender wage gaps.

Second, while the numbers thesis, including critical mass and tokenism, has dominated the theoretical lens of much of the research on the impact of WoB and various organizational outcomes including gender diversity below the board, the impact of WoB on gender diversity below the board has had ambiguous and inconsistent results. Incorporating a more complex approach in examining gender board configurations, I felt, may provide improved explanatory power. The analysis of the impact of WoB was extended to include the presence of women in positions of power and status on the board and empirically analyze their association with higher levels of gender diversity in the executive levels.

I used the data on the percentage of women in senior executive levels collected by the Hampton Alexander Report. This was another opportunity to enhance the relevance of the study by making a complementary analysis to this high-profile government sponsored review. I complemented this with data on board members that is readily available on Boardex and includes details on a number of board member attributes including gender, position on the board including Board Chair, Senior Independent Director, committee chairs, executive or non-executive position and number of board interlinks. Timing for this study was good as an analysis on this relationship using the final years data from the Hampton Alexander Report could provide additional perspective on the success of such voluntary target-based programs and provide additional insight for any follow-on programs.

## **8.10 Impact**

The impact of this research includes conceptual and instrumental impact as well as impact through capacity building. The findings of this study have resulted in conceptual impact by providing new insights to governments and practitioners on the gender configuration of corporate boards not only in terms of numbers but in terms of roles with power and influence. The relatively new methodological

approach, using QCA, has contributed to the understanding of the impact and the limitations of the UK's voluntary approach to improve the percentage of women in senior leadership roles. Improvements to the gender balance of UK corporate boards can have a trickle-down effect to levels below the board, however, the findings suggest that the impact of a focus on numbers only has likely already been realized. Moving the agenda forward on WoB with a view support the overall agenda for gender equality and women's empowerment requires a more nuanced understanding of when and how women directors influence women in the executive pipeline.

On February 22<sup>nd</sup>, 2022, the third iteration of the government sponsored, business led program to address gender diversity in leadership roles was launched. The title of this third and final stage shifts the expectation from 'Improving Gender Balance' to 'Achieving Gender Balance'. This new stage increases the target for FTSE boards and leadership teams from 33% to 40% and **for the first time**, includes a focus on the **board roles** held by women.

For the first time there is a clear recommendation for FTSE companies to address the representation of women in senior board roles calling on all FTSE companies to have at least one woman in the role of Chair or SID and/or at least one woman in the role of CEO or Finance Director by 2025 (FTSE Women Leaders Review, 2022) (see Figure 26 below). This demonstrates the instrumental impact this research has had on government policy and on business leaders who supported the adoption of these new targets in the third phase on the FTSE Women Leaders Review.

**Figure 25: Key Recommendations for Women in Senior Board and Executive Roles (FTSE Women Leader Report (2022))**



**02**

**Women in the Most Senior Board and Leadership Roles**

**Recommendation:** FTSE 350 companies should have at least one woman in the Chair or Senior Independent Director role on the Board, and/or one woman in the Chief Executive Officer or Finance Director Role in the company by the end of 2025.

All companies should increase their efforts to understand and remove bias from the selection process on Board and Leadership appointments.



**Increased Target Aiming for Gender Balance**

**Recommendation:** The voluntary target for FTSE 350 Boards, and for FTSE 350 Leadership teams is increased to a minimum of 40% women's representation, by the end of 2025.

To maintain gender balance over time, and provide a degree of flexibility, companies should aim to maintain the representation of both men and of women at, or above a minimum 40% threshold.



**Locking in Progress on FTSE 350 Boards**

**Recommendation:** Key stakeholders, such as the Investment community and corporate governance agencies should continue to set best-practice guidance, or have in place alternative mechanisms as appropriate, to encourage any FTSE 350 board that has not yet achieved the 33% target for 2020, to do so.

In addition, FTSE 350 Boards below 33% women, should look to the under-represented gender when considering additional appointments.



**Encouraging Progress Across a Wider Spectrum of British Business**

**Recommendation:** The scope is extended beyond FTSE 350 companies to include the largest 50 private companies in the UK by sales. This will provide consistency of regulatory approach and drive further progress across British business.

**Note:** Private companies includes, private equity owned companies, partnerships, entrepreneur/founder owned, family owned or companies owned directly by management and staff.

*From FTSE Women Leaders Review: Achieving Gender Balance announced February 2022.*

## **8.11 Beneficiaries of the Research**

Gender balance for women in leadership has significant implications for the economy, society, organizations and women. Beneficiaries of this work is outlined below and summarized in Table 25 (on page 186) and includes the economy, society, organizations, WoB and women in the executive pipeline.

### **8.11.1 Benefits to the Economy**

Improving access and opportunities for women to achieve their potential in the corporate world can contribute to fixing the existing leaky corporate pipeline where women opt out or are pushed out (Kossek, Su and Wu, 2016). This in turn can contribute to improving labour market participation of women which could result in increase in GDP per capita of up to 2% by 2030 (Morais Maceira, 2017).

### **8.11.2 Benefits to Society**

Gender Equality and The Economic Empowerment of Women is a key Sustainable Development Goal established by UN members in 2015. The UK was at the forefront of negotiating these goals and needs to be at the forefront of delivering them. With less than eight years left there is a lot of work yet to be done. A key indicator for equality and empowerment is the gender wage gap. Significant improvement in this metric will be difficult to achieve without addressing the largest gaps which are driven by occupational segregation and the low levels of women in senior level high paying jobs.

### **8.11.3 Benefits to Organizations**

The findings of this research can provide insight to develop strategies to further improve gender diversity in organizations. This research creates a spotlight on not only the representation of WoB but also whether they are moving into positions of power and status to enhance their influence. For those organizations

committed to improving gender diversity across the organization, and particularly in senior levels, it provides empirical evidence on the importance of more equitable board configurations with women in roles of power and influence and prompts a discussion about succession planning at the board level as well as in the organization.

#### **8.11.4 Benefits to Women on Boards**

For WoB, this research highlights that lack of opportunity that women directors on many boards have had to progress to more senior board roles and may challenge boards, and in particular Board Chairs, to take a more inclusive approach when considering senior board appointments. A more inclusive approach would see more women directors securing more senior board appointments.

#### **8.11.5 Benefits to Women in the Executive Pipeline**

The specific outcome of interest in this research was the women in the executive pipeline. To the extent that this research challenges companies to rethink their approach to developing a gender diverse and gender inclusive culture that is reflected in all levels of the organizational, it can translate into more opportunities for women in the pipeline. For women in the pipeline, they will see both potential and opportunity to succeed to senior levels.

**Table 27: Beneficiaries of this Research**

<b>Beneficiaries of Research</b>	<b>Potential Benefit</b>
Economy	Benefit from full labour market participation of women exploiting the full productive capacity of the labour force  Estimated increase in GDP per capita up to 2% by 2030
Society	Economic empowerment of women is key for women's rights and gender equality  Reduction of gender wage gaps
Organizations	Provides a tactic to improve gender diversity in senior levels and reduce gender wage gaps
Women on boards	Provides rationale for promoting women directors into senior roles
Women in executive pipeline	Women directors with influence can be advocates, role models and signal that progression to top roles is possible which may contribute to their motivation and aspiration to aspire to top leadership roles.

A consequence of developing gender inclusive boards, which includes the presence of women directors in powerful roles, is the exploitation of the full productive capacity of labour markets. This means more women actively participating in the labour market with an associated reduction in the segregation of occupations and more equitable representation of women in senior, higher paying jobs.

## 8.12 Plan for Dissemination

This new methodological approach, using QCA, has contributed to the understanding of the impact and limitations of the UK's voluntary approach to improve the percentage of women in senior leadership roles.

In order to leverage the impact opportunities identified above, five potential streams for dissemination of the research were identified and are outlined below. This first initiative for dissemination has already been put into action while the other four are in progress.

### 8.12.1 Government Sponsored Reviews

FTSE Women Leaders Review “Achieving Gender Balance”.



The research findings suggested a new, targeted approach focused on the women in senior board roles and should be a key aspect of any follow-on programs to the Hampton Alexander Review. This has been adopted in the third phase of FTSE Women Leaders Review.

### **8.12.2 Academic Articles**

I am currently developing a journal article for the Journal of Business Ethics with Dr Elena Dolder, Queen Mary University of London, Professor Sue Vinnicombe, CBE and Professor Kim Turnbull James.

### **8.12.3 Practitioner Articles**

In addition to the Female FTSE Board Reports already published, I am looking at preparing a Practitioner oriented article for publication in a practitioner publication such as *HR Magazine* or *People Management*.

### **8.12.4 Cranfield University Gender Leadership and Inclusion Centre (GLIC)**

Cranfield is well known for leading research on WoB providing targeted research on areas of interest to British Business, developing the business case and making recommendations for increasing the representation of WoB. Cranfield's Gender, Leadership and Inclusion Centre (previously the Women's Leadership Centre) was the first to spotlight in 1999 the issue of the lack of women in leadership roles with the annual publication of The Female FTSE Report. As a result, the university is well known for delivering research targeted to practitioners. Highlighting this research here means a higher probability of reaching practitioners than through the traditional academic journal channel.

### **8.12.5 Collaborative Research**

Another opportunity to extend this research is by developing joint research with practice leaders. During the interviews with board experts, Kate Donaghy, principle at Board Advisory Partnership LLP, suggested that a next step could be to perform a qualitative study interviewing chairs on what they felt was their (and the boards) accountability for succession planning at executive levels. During this research I found there were varying opinions on the role of the board with respect to executive succession planning. Moreover, the regulatory guidance continues to evolve, placing more responsibility on the board regarding succession planning.

A joint research project with the Advisory Board Partnership is currently underway. The project is entitled “Executive Succession Planning: The Board’s Role. We are interviewing a number of FTSE Chairs, CEO’s and Board Consultants with a view to provide some best practices to generate more diversity in executive succession plans. See Appendix E for a summary of the project which has been provided to participants.

### **8.13 Evaluation of Impact**

At a high level this research is about gender equality. Notwithstanding years of effort including equal pay legislations, regulatory guidance, hard and soft quotas, voluntary targets and multifaceted initiatives by business and grass roots organizations, gender inequality persists. Nowhere is this more apparent than in the upper echelons of business.

While this research can only provide a small contribution toward the goal of gender equality, it has provided a basis on which to extend the conversation away from the existing, simplistic approach of focusing on numbers only by introducing the concept of power and status as a mechanism of influence. Further, it highlights that all board members do not have equal ability and opportunity to influence board dynamics, board decision and their organizations more broadly. In particular, the Chair and CEO both carry more power and status. The Chair in

terms of setting and activating the board's agenda and the CEO in terms of what actually gets executed.

The goal of this study was to shift the discussion away from the numbers of women board members to explore how and when WoB influence gender diversity inside and outside their organizations. As policy makers and regulators consider how to promote a sustainable approach to developing more gender diversity and indeed balance, these findings can provide empirical evidence to stimulate new conversations and generate new strategies and initiatives. To date there has been very little, if any, talk about the role that power and influence plays on the board in particular relative to women directors. Therefore, impact could be indicated to the extent that this research moves the conversation away from the proportional representation of women in senior leadership to consider the power and status of WoB either by governments, organizations, consultancies or grass roots organizations. Indeed, the announcement of the third business led review, FTSE Women Leaders Review in February 2022, which included a clear and explicit focus on increasing the number of women in senior board roles in all FTSE 350 companies, is such an indication.

## **9 CONCLUSIONS**

This research was motivated by a desire to understand when and how women in leadership positions, specifically the board, are able to influence cultures, board dynamics and ultimately board decisions that positively impact gender diversity in the senior executive levels. This study takes a multi-theoretic approach incorporating aspects of both formal and informal power in addition to the critical mass thesis to analyze the gender composition of boards how this relates to the gender balance in the executive levels My thesis takes a multi-theoretic approach and integrates critical mass theory with theories of power and status to examine the gender composition of U.K. corporate boards and how this relates to the gender balance in the executive levels.

This research is timely as it follows ten years of initiatives to increase the numbers of women in leadership. While there has been a significant increase of WoB, the anticipated trickle-down effect to levels below the board has not materialized. Especially disappointing has been the increase in female EDs, in particular, the number of female CEOs. Below, I summarize this research project and its findings and present my theoretical contributions and what this means for practice and future research. I then address the limitations of the research and conclude with some closing remarks.

### **9.1 Overview of Research**

The main goal of this research was to examine the impact of WoB on gender diversity below the board by not only considering the effect of women director's numbers, but their power and status as well. The research to date on the influence of WoB on the gender balance below the board has been equivocal, leaving their role in activating and producing the trickle-down effect unclear.

A review of the literature showed that critical mass theory has dominated the research on the gender composition of corporate boards. Implicit in these studies is that a critical mass of WoB will allow women directors to have a meaningful say on board decisions and outcomes. In particular, it supposes that the presence of

WoB will improve career opportunities and experiences for women below the board and lead to a trickle-down effect. . However, this focus on the proportional representation of WoB has failed to consider how board power dynamics influence female director's participation and influence and their impact on driving gender balance below the board. Some recent research has shown that the roles that women directors hold and their status in the business community affects their ability to influence board decisions, therefore, it should be important to include aspects of WoB's power and status when examining their influence.

This research adopted a critical realist approach and employed a mixed method methodology. The objective was to analyze the gender composition of FTSE 100 boards in terms of the numbers, power and status of women directors and any association with improved gender diversity in the executive levels. The aim was to answer the research questions outlined in section 1.3.2:

1. Does the presence of WoB activate the trickle-down effect?
2. What board gender configurations (in terms of roles held by female directors) are associated with the trickle-down effect?
3. What mechanisms underpin the trickle-down effect?

My theoretical framework, outlined in Chapter 3, has integrated critical mass theory with theories of power and status, all three of which have been shown to influence board outcomes. Examining how boards are configured and where female directors are situated in terms of power and status was key in obtaining new insight for both practitioners and academics interested in gender equality.

The analysis was performed using a QCA (Qualitative Comparative Analysis). This was a major departure from most research that has used traditional statistical tools like regression analysis to study correlations between the numbers of WoB and female representation in the levels below the board. Instead, a QCA takes a configurational approach, which allows for the analysis of multiple conditions and their joint effect on the outcome. The analysis revealed three distinct board configurations which are consistently associated with 30% or

more women in senior executive levels: (1) boards with female directors who hold a number of other non-executive directorships but who do not represent a critical mass and do not chair board committees; (2) boards with a critical mass of WoB and female executive directors; (3) boards with a critical mass of highly interlinked WoB and women in one or more senior board roles. These findings have provided new empirical evidence about the importance of power, status and influence of WoB to effectively drive better gender balance below the board.

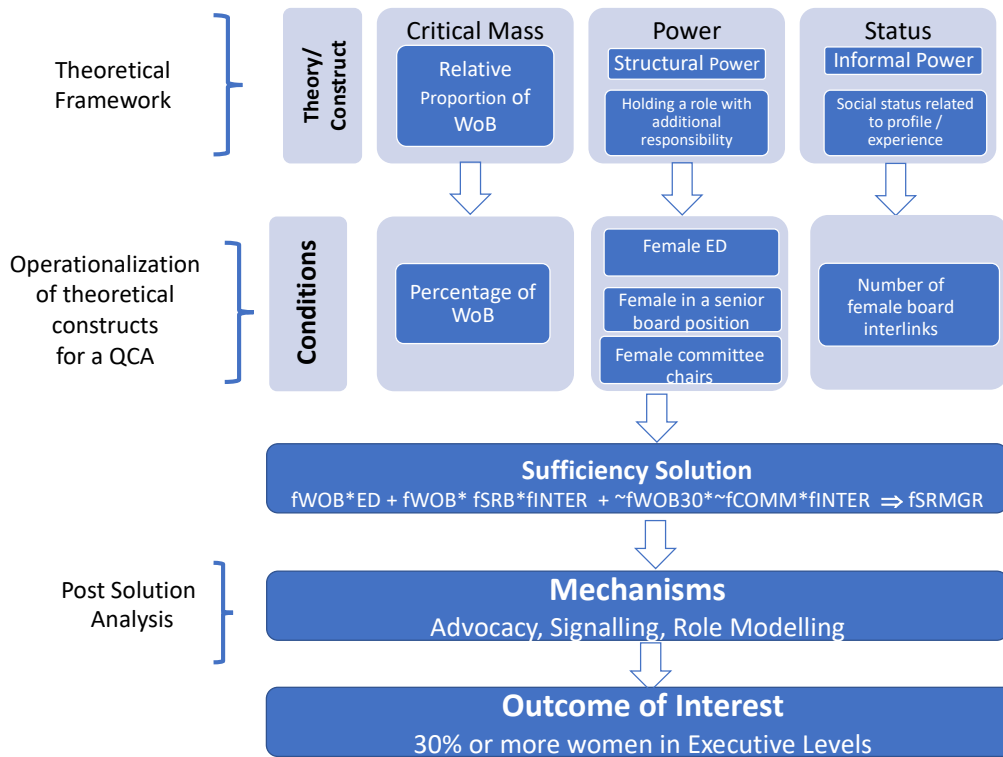
These findings extend WoB scholarship showing how the power and status of female directors in conjuncture with a critical mass of WoB influences gender diversity below the board. The board configurations identified by the QCA reflect boards who have evolved to embrace gender diversity and have evolved towards gender integrated boards where WoB have real power and influence or ones who are in the initial stages of doing so.

The QCA involved a post solution analysis which included interviews with senior board members and board experts. Integrating the insights provided by an expert panel was crucial in interpreting the QCA solution and has allowed me to further develop and hypothesis how these board configurations are enabling trickle-down mechanisms leading to the trickle-down effect and the outcome of interest, better gender balance in the levels below the board.

Finally, as an addendum to this research, I was also able to produce a speculative board evolution model.

Figure 25 below, provides an overview of the research process. It shows the theoretical framework and how I operationalized these constructs for the QCA and the resulting sufficiency solution which leads to the outcome of interest, 30% of more women in senior executive levels. The post solution analysis and supplementary interview study is where I was able to theorize about the mechanisms that activate the trickle-down effect.

**Figure 26 - Overview of Research**



Overall this research makes a number of contributions to knowledge. Taking a configurational approach using Qualitative Comparative Analysis (QCA), was a significant departure from previous research which has mostly relied on the use of traditional regression analysis. A QCA has a number of advantages over traditional statistical techniques. It was designed to embrace causal complexity, a key characteristic of social systems and groups, and can accommodate three key dimensions of complexity including conjunction, equifinality and asymmetry in its analysis. A QCA analysis allows us to look at various configurations of interrelated causal conditions and their association with an outcome of interest.

This research project provides an example, where, by taking a configurational approach, it is possible to conduct a much more complex and nuanced analysis that is much better suited to elaborate and test theory. The use of this methodology was key in providing the approach and analytical tools to develop two theoretical contributions.

## 9.2 Key Theoretical Contributions

This research suggests that the utility of critical mass theory in WoB research in terms of explaining the relationship between a specific percentage of female directors and their ability to influence organizational outcomes, in this case the trickle-down effect, has been overstated. The findings of the QCA provide empirical evidence that a critical mass of women on FTSE 100 boards is not enough on its own to activate trickle-down mechanism as it is neither necessary nor sufficient in its association with improved gender diversity in the executive levels. This suggests that meaningful participation may not necessarily be a function of numeric representation as critical mass theory suggests. While developing a critical mass of WoB has improved the descriptive representation of women in leadership (i.e. their proportional representation), it does not necessarily lead to the trickle-down effect which would represent an improvement in the substantive representation of women in executive leadership.

Instead it shows that the power and status of female directors are important aspects in improving the gender diversity in the senior levels below the board. The findings show that the power and status of female directors are key aspects in activating and producing the trickle-down effect. The configurational analysis of FTSE 100 boards reveals three board configurations that are conducive to driving better gender balance in the levels below the board, indicating that it is the combination of women holding directorships along with their presence in influential roles that improves the gender balance in the executive levels. This multi theoretic approach has provided strong empirical evidence that female directors on corporate boards when represented in their numbers, power and status indicate gender integrated boards and gender integrated boards are key to consistently activating trickle-down mechanisms.

In addition to these theoretical contributions, these findings, and in particular some insights provided during the interviews with UK board experts, allowed for the development of a board evolution model. While the model remains speculative and not empirically grounded, it postulates how boards have evolved towards gender integrated boards. It outlines how boards have evolved from a male dominated ones to ones that are not only gender balanced but are gender integrated, where women directors are present in positions of power and influence.

### **9.3 Key Practical Contributions**

Given the continued focus for better gender balance, the findings of this study are highly relevant for practioners and policy makers. While existing approaches focusing on increasing the numbers of WoB may have had some important initial impacts, a continuation of such approaches are not likely to result in better representation in the senior executive levels. In the recent launch of the FTSE Women's Leader Review, it was encouraging to see a recommendation focusing on getting women into key board roles such as Chairs, SIDS, CEOs and CFOs. This recommendation unfortunately conflates these four very different roles. Each of these roles perform very different functions, have very different responsibilities and have very different levels of influence. Moreover, for boards looking to "tick the box" on this recommendation, appointing a female SID will be the easiest. The problem with this is that this type of response from companies will do little to address the very real and long-standing issue in the number of women in senior executive roles. Indeed, there is early evidence that this is happening with far more appointments of female SIDs in 2021 than to Chair roles, no change to the number of female CEOs and a contraction in the number of female in other ED roles (FTSE Women Leaders Review, 2022).

Even though the QCA was not able to separate the senior non-executive board roles of Chair and SID and the executive board roles of CEO and CFO (due to very low numbers of female CEOs and Chairs) there were some indications that board configurations with both a critical mass of WoB and one or more females

in ED roles activates a stronger trickle-down effect than other board configurations in the solution. Further the interviews with board experts clearly identified that the CEO and the Chair are the real power holders on the board and are key for setting the tone and direction of the board and the organization which includes a commitment to gender diversity both on the board and in the executive pipeline.

This exploratory analysis has provided evidence that a sole focus on proportional representation of WoB is not enough to drive gender balance in the levels below the board. Instead, it suggests that women directors also need to be in roles with power and influence in order to activate trickle down mechanisms however, practitioners should be cautioned against taking the easy route of appointing a female SID. While such an appointment will fulfil one of the FTSE Women Leaders Review recommendations, developing a gender integrated board with an underlying commitment to gender diversity throughout the organization is what activates trickle-down mechanisms.

#### **9.4 Future Research Agenda**

This study was an exploratory study adopting a unique theoretical framework and using a relatively new methodological approach and the findings offer a number of interesting future research opportunities.

Overall, this thesis demonstrates how a configurational approach can allow researchers to consider the interdependent nature of board conditions or attributes and how they operate together to produce desired outcomes. Methodologically speaking, this study has underlined the limitations of traditional correlational techniques and has demonstrated how a QCA study can be used to perform a more nuanced analysis that incorporates multiple influencing variables.

From a theoretical perspective, this thesis has demonstrated the importance of power dynamics on the board. It suggests that when attempting to understand how board decisions are shaped and determined, a consideration of the powerholders on the board and the interplay between them and other board

members is important. Moreover, it has challenged the suitability of critical mass theory when studying the upper echelons of organizations where power and status are more germane.

Future studies could look to unpack the power and influence of the senior board roles individually. While it was necessary to combine senior non-executive roles (Chairs and SIDs) and the ED roles (CEOs and CFOs) for this research, an analysis that could separate them would provide better insight to power dynamics on the board. Similar studies in other countries would also be interesting to see how other national contexts shape power dynamics and board configurations relative to improving gender diversity in the executive pipeline.

Research has shown very little evidence of a trickle-down effect in jurisdictions with quota laws like Norway, however a similar configurational analysis integrating the power and status of women directors could provide practical insights for accelerating their slow progress in executive levels. Further, it would be interesting to conduct a QCA study comparing countries with quotas to those without.

Finally, shifting from a snap-shot view of board configurations, a longitudinal study to observe how the gender composition of corporate boards has developed over time could provide more insight into the board development model. This could include individual case studies or more detailed cross case analysis. The findings of such studies could provide insights into best practices and importantly a better understanding of the challenges and obstacles organizations face when undertaking gender-equality reforms.

## **9.5 Limitations of Research**

As with any research project, this study involves a number of limitations. First, the unit of analysis for the QCA study was the board, specifically the women directors and their roles. Other explanatory conditions could also be influencing, moderating or contributing to the gender balance in the executive levels. Although it would have been impractical to add more conditions as more

conditions would increase the number of logical configurations exponentially and make the analysis unwieldy, future studies looking at other combinations of influencing conditions would certainly be warranted.

A second limitation relates to my sample. While I focussed this analysis on the FTSE 100 to provide a somewhat homogeneous sample, FTSE 100 companies vary significantly in geographic scope, revenue, number of employees and cover a range of sectors. For this exploratory study though I did not conduct any segmented analysis such as looking at firm size, revenues or employee base although this line of inquiry could prove fruitful.

Third, this analysis also did not consider how gender board configurations have changed over time. Given that boards and the executive levels of companies have evolved significantly over the past decade and are in constant flux, a longitudinal analysis may provide further evidence and insight into the association between gender board configurations and gender balance in the executive levels.

Fourth, this analysis was not able to disaggregate and analyze other aspects of diversity including racial/ethnic, social class, nationality, or any interactions with gender. Intersectionality can be important moderators and help to explain the impact of diversity on firms. For example, previous research suggests that women of colour may experience leadership differently and their employment experience may vary. Such research may provide a more nuanced understanding.

Finally, while QCA is conceptually designed to determine causality (i.e. that certain female board configurations will lead to higher gender diversity below the board), endogeneity problems remain in terms of ruling out reverse causality (Baumgartner and Thiem, 2017; Duşa, 2019; Greckhamer et al., 2008; Misangyi and Acharya, 2014; Rubinson, Rutten and Greckhamer, 2019).

This supplementary interview study was also subject to a number of limitations. First, the sample was a small non-random sample focused on board members and experts who have been supportive of advancing gender diversity in the U.K. Further, the sample was not gender balanced with more females than males

resulting in comments and insights that may be biased and lean more towards a female perspective.

The interviews questions were open ended and focused on the participants experience which could be affected by recall bias. Further, their perspectives could be affected by the human tendency to recall their actions in the best possible light and potentially reporting events more in line with present day thinking.

## **9.6 Situational Bias**

This study was conducted in the UK, which has taken a relatively unique approach to improve gender representation at senior executive levels. Many European countries have taken an approach involving hard quotas and penalties for non-compliance, while others like the US, have largely left the issue in the hands of market forces. The UK, on the other hand has adopted a government sponsored, business led voluntary approach to encourage companies to increase the representation of WoB. Therefore, the theoretical framework, the board evolution model and the results need to be understood in this context. For example, the impetus for change, whether it is market driven, mandated by law or something in between is likely to result in different responses, pathways and outcomes for gender equity reforms. Further, other facets of environmental context like the social, political and economic structures of individual countries will also play a role.

## **9.7 Attentional Bias**

Attentional bias happens when researchers choose and pay attention to certain aspects of a phenomena while ignoring others. In this study, the unit of analysis was the board and certain aspects of board configurations relative to gender. Even though these aspects were informed by theory, there may be other facets that could be effective in influencing board dynamics and processes and

ultimately the outcome of interest. Further, this study chose to look at attributes and roles held by WoB while ignoring how an individual's behavioural or attitudinal orientations may influence their inclination to augment gender diversity in their organizations.

## **9.8 Closing Remarks**

While this thesis represents the culmination of my DBA process, the journey has been a great learning opportunity and an intellectual challenge. Having spent most of my career in an organizational environment and subject to many of the issues that have been considered and discussed throughout this thesis, it has been fascinating to look at gender diversity in organizations more reflexively and from the perspective of as observer rather than a participant.

My preferred subject at school was mathematics. I liked that there were clear cut answers that are either write or wrong. Later on, in my career most of the roles I have had have been in finance which obviously have a more quantitative orientation. One of my in goals of completing DBA was to move any from my life in finance and its orientation around numbers so initially thought I would be conducting a qualitative research project. I was however pleased to have found a methodology that incorporates numbers and data analysis with a qualitative perspective. Certainly learning a new methodology was somewhat daunting especially as it was a self-taught process. Further, because QCA is a relatively newer methodology, it is continues to develop, the learning of which is further complicated by on ongoing debate between methodologists as to the veracity and interpretability of QCA findings and its causal claims.

Finally, I felt truly privileged to have had to opportunity to speak to eight senior highly respected board members and advisors. This has been an opportunity rarely afforded to a DBA student and my interaction with them was critical to my interpretation of the QCA study. Overall, I feel that the whole process has had the intended consequence of challenging my thinking and perspective as it

relates to the opportunities, issues and challenges in creating more gender inclusivity in the workplace.

In terms of 'what now?', I have very much enjoyed the research process. This project has been especially rewarding as I believe it has resulted in some very practical insights that highlights where regulators, organizations, investors and others interested in gender equality should focus their attention from a corporate governance perspective. The opportunity to continue to work on similar research projects and studies is something I should like to pursue!



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## Appendix A: Systematic Literature Review – Article List

<b>2006</b>	<b>1</b>
<b>Bilimoria, Diana</b> The Relationship Between Women Corporate Directors and Women Corporate Officers. Journal of Managerial Issues	
<b>2007</b>	<b>1</b>
<b>Cohen, P. N.; Huffman M. L.</b> Working for the woman? Female managers and the gender wage gap American Sociological Review	
<b>2008</b>	<b>3</b>
<b>Konrad, Alison M.; Kramer, Vicki; Erkut, Sumru</b> Critical Mass: The Impact of Three or More Women on Corporate Boards. Organizational Dynamics	
<b>Mavin, Sharon</b> Queen bees, wannabees and afraid to bees: No more 'best enemies' for women in management? British Journal of Management	
<b>Terjesen, Siri; Singh, Val</b> Female Presence on Corporate Boards: A Multi-Country Study of Environmental Context. Journal of Business Ethics	
<b>2009</b>	<b>1</b>
<b>Terjesen, Siri; Sealy, Ruth; Singh, Val</b> Women Directors on Corporate Boards: A Review and Research Agenda. Corporate Governance: An International Review	
<b>2010</b>	<b>3</b>
<b>Cardoso, A.R.; Winter-Ebmer, R</b> Female-Led Firms and Gender Wage Policies ILR Review	
<b>Huffman, Matt L; Cohen, Philip N; Hill, Carolina Chapel; Pearlman, Jessica; Hill, Carolina Chapel</b> Engendering Change- Organizational Dynamics & Workplace Gender Desegregation, 1975-2005 Administrative Science Quarterly	
<b>Sealy, R; Singh, V</b> The importance of role models and demographic context for senior women's work identity development International Journal of Management Reviews	

2011

4

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**Duguid, Michelle**

Female tokens in high-prestige work groups: Catalysts or inhibitors of group diversification?  
Organizational Behavior and Human Decision Processes

**Elkinawy, Susan; Stater, Mark**

Gender differences in executive compensation: Variation with board gender composition and time  
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CEO succession, gender and risk taking  
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**Matsa, David A; Miller, Amalia R**

Chipping away at the Glass Ceiling: Gender Spillovers in Corporate Leadership.  
American Economic Review

2012

7

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**Branson, Douglas M.**

Initiatives to Place Women on Corporate Boards of Directors--A Global Snapshot.  
Journal of Corporation Law

**Duguid, Michelle M.; Loyd, Denise Lewin; Tolbert, Pamela S.**

The impact of categorical status, numeric representation, and work group prestige on preference for demographically similar others: A value threat approach  
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**Karpowitz, C; Medelbert, T; Shaker, L**

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Do Female Top Managers Help Women to Advance? A Panel Study Using EEO-1 Records  
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**Cole, B. M.; Salimath, M.S.**

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Journal of Business Ethics

**Wang, Mingzhu; Kelan, Elisabeth**

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Journal of Business Ethics

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**Cook, A; Glass K**

Women and Top Leadership Positions: Towards an Institutional Analysis  
Gender, Work and Organization

**Gupta, Atul; Raman, Kartik**

Board Diversity and CEO Selection  
Journal of Financial Research

**Rhode, Deborah; Packel, Amanda K.**

Diversity on Corporate Boards: How Much Difference Does Difference Make?  
Delaware Journal of Corporate Law

2015

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**Cook, Alison; Glass, Christy**

Diversity begets diversity? The effects of board composition on the appointment and success of women CEOs  
Social Science Research

**Geiler, Philipp; Renneboog, Luc**

Are female top managers really paid less?  
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**Joshi, Aparna, Son; Jooyeon, Roh, Hyuntak**

When Can Women Close the Gap ? a Meta-Analytic Test of Sex Differences in Performance and Rewards  
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**Tate, Geoffrey, Yang, Liu**

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Actions speak louder than words: Outsiders' perceptions of diversity mixed messages.  
Journal of Applied Psychology

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**2017**

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**Carter, Mary Ellen; Franco, Francesca; Gine, Mireia**

Executive Gender Pay Gaps: The Roles of Female Risk Aversion and Board Representation.  
Contemporary Accounting Research

**Kunze, Astrid; Miller, Amalia R.**

Women Helping Women? Evidence from Private Sector Data on Workplace Hierarchies  
The Review of Economics and Statistics

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**2018**

**8**

**De Vita, L. and Magliocco, A**

Effects of gender quotas in Italy: a first impact assessment in the Italian banking sector  
International Journal of Sociology and Social Policy

**Flabbi, Luca; Macis, Mario; Moro, Andrea; Schivardi, Fabiano**

Do Female Executives Make a Difference? The Impact of Female Leadership on Gender Gaps and Firm Performance.  
The Economic Journal

**Frye, Melissa B.; Pham, Duong T**

CEO gender and corporate board structures  
Quarterly Review of Economics and Finance

**Glass, Christy; Cook, Alison**

Do women leaders promote positive change? Analyzing the effect of gender on business practices and diversity initiatives.  
Human Resource Management

**Gould, Jill A.; Kulik, Carol T.; Sardeshmukh, Shruti R.**

Trickle-down effect: The impact of female board members on executive gender diversity.  
Human Resource Management

**Kirsch, Anja**

The gender composition of corporate boards: A review and research agenda.  
Leadership Quarterly

**Li, J. et al**

Demographic diversity on boards and employer/employee relationship  
Employee Relations

**Oliver, Abbie G.; Krause, Ryan; Busenbark, John R.; Kalm, Matias**

BS in the boardroom: Benevolent sexism and board chair orientations.  
Strategic Management Journal (John Wiley & Sons, Inc.

**2019**

**4**

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**Bertrand, M; Black, S; Jensen, S; Llera-Muney, A**

Breaking the Glass Ceiling? The Effect of Board Quotas on Female Labour Market Outcomes in Norway  
Review of Economic Studies

**Cook, Alison; Ingersoll, Alicia R; Glass, Christy**

Gender gaps at the top: Does board composition affect executive compensation?  
Human Relations

**Creek, S.; Kuhn, K.; Sahaym, A**

Board Diversity and Employee Satisfaction: The Mediating Role of Progressive Programs  
Group and Organization Management

**Furlotti, Katia; Mazza, Tatiana; Tibiletti, Veronica; Triani, Silvia**

Women in top positions on boards of directors: Gender policies disclosed in Italian sustainability reporting.  
Corporate Social Responsibility & Environmental Management

**2020**

**3**

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**Bennouri, Moez; De Amicis, Chiara; Falconieri, Sonia**

Welcome on board: A note on gender quotas regulation in Europe.  
Economics Letters

**Delgado-Piña, María Isabel; Rodríguez-Ruiz, Óscar; Rodríguez-Duarte, Antonio; Sastre-Castillo, Miguel Ángel**

Gender Diversity in Spanish Banks: Trickle-Down and Productivity Effects  
Sustainability

**Kowalewska, Helen**

Bringing Women on Board: The Social Policy Implications of Gender Diversity in Top Jobs  
Journal of Social Policy

**2021**

**12**

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**Abebe, Michael; Dadanlar, Hazel**

From tokens to key players: The influence of board gender and ethnic diversity on corporate discrimination lawsuits.  
Human Relations

**Ali, Muhammad; Grabarski, Mirit K.; Konrad, Alison M.**

Trickle-down and bottom-up effects of women's representation in the context of industry gender composition: A panel data investigation  
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**Biswas, Pallab Kumar; Chapple, Larelle; Roberts, Helen; Stainback, Kevin**

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Journal of Business Ethics

**Biswas, Pallab Kumar; Roberts, Helen; Stainback, Kevin**

Does women's board representation affect non-managerial gender inequality?  
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**Bozhinov, Viktor; Joecks, Jasmin; Scharfenkamp, Katrin**

Gender spillovers from supervisory boards to management boards.  
Managerial & Decision Economics

**Corwin, Emily S.; Loncarich, Holly; Ridge, Jason W.**

What's It Like Inside the Hive? Managerial Discretion Drives TMT Gender Diversity of Women-Led Firms.  
Journal of Management

**Halrynjo, Sigtona; Blair-Loy, Mary**

Women's Underrepresentation in Corporate Power in Norway and US: Beyond In-group Favoritism 1  
Nordic Journal of Working Life Studies

**Périlleux, Anaïs; Szafarz, Ariane**

Women in the boardroom: a bottom-up approach to the trickle-down effect.  
Small Business Economics

**Seierstad Cathrine; Tatli Ahu; Aldossari Maryam; Huse Morten+M64**

Broadening of the Field of Corporate Boards and Legitimate Capitals: An Investigation into the Use of Gender Quotas in Corporate Boards in Norway  
Work, Employment & Society

**Seierstad, Cathrine; Healy, Geraldine; Eskil Sønju Le Bruyn Goldeng; Fjellvær, Hilde**

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Revolution From Above? Female Directors' Equality-Related Actions in Organizations  
Business and Society

**Maida, Agata; Weber, Andrea**

Female Leadership and Gender Gap within Firms: Evidence from an Italian Board Reform.  
ILR Review

**Total**

**66**

## Appendix B: SLR Articles by Outcome & Effect

### Trickle-down

22

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**Ali, Muhammad; Grabarski, Mirit K., Konrad, Alison M.**

Trickle-down and bottom-up effects of women's representation in the context of industry gender composition: A panel data investigation  
2021

**Beckman, Christine M.; Phillips, Damon J.**

Interorganizational Determinants of Promotion: Client Leadership and the Attainment of Women Attorneys.  
2005

**Bennouri, Moez; De Amicis, Chiara; Falconieri, Sonia**

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2009

## **Gender Wage Gaps**

13

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**Bertrand, M; Black, S; Jensen, S; Llera-Muney, A**

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**Cardoso, A.R.; Winter-Ebmer, R**

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## Hiring, Promotion & Post Promotion Success

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**Bennouri, Moez; De Amicis, Chiara; Falconieri, Sonia**

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## **Advocacy & Influence**

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**Derks, Belle; Van Laar, Colette; Ellemers, Naomi**

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## Workplace Integration

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**Huffman, Matt L; Cohen, Philip N; Hill, Carolina Chapel; Pearlman, Jessica; Hill, Carolina Chapel**

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## Organizational Reputation

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Diversity on Corporate Boards: How Much Difference Does Difference Make?

2014

**Windscheid, Leon; Bowes-Sperry, Lynn; Kidder, Deborah L.; Ho Kwan Cheung; Momer, Michèle; Lievens, Filip; Cheung, Ho Kwan; Morner, Michèle**

Actions speak louder than words: Outsiders' perceptions of diversity mixed messages.

2016

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## Role Models

3

**Branson, Douglas M.**

Initiatives to Place Women on Corporate Boards of Directors--A Global Snapshot.

2012

**Périlleux, Anaïs; Szafarz, Ariane**

Women in the boardroom: a bottom-up approach to the trickle-down effect.

2021

**Sealy, R; Singh, V**

The importance of role models and demographic context for senior women's work identity development

2010

## Appendix C: Certificate in QCA in Management Research



Prof. Dr. Christian Rupietta

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### Certificate

**Ms. Michelle Tessaro**

participated successfully in the Ph.D. course

***Qualitative Comparative Analysis (QCA) in Management Research***  
**(3 ECTS)**

offered by the Jackstädt Center of Entrepreneurship and Innovation  
Research at the University of Wuppertal in Summer Term 2021 and  
passed the examination.



Prof. Dr. Christian Rupietta

Wuppertal, September 16<sup>th</sup>, 2021

## **Appendix D: Summary of QCA Study Provided to Interviewees**

### **Women on Boards and Gender Diversity Below the Board – A Configurational Analysis of FTSE 100 Companies**

Board quota and target programs have been adopted in a number of countries with a goal to not only to improve female representation on corporate boards but to improve gender diversity more broadly. After a 10-year business led campaign in the UK, we have seen increases for both women on boards and women in senior management, but these improvements have not been uniform across FTSE 100 companies. Taking a more nuanced approach this study sought to look beyond simply the numbers of women on boards to also consider whether women who have board roles with higher levels of power and/or status influence gender diversity below the board. Further, this analysis took a configurational approach and allowed us to look at various configurations of women boards members and whether any were associated with higher levels of gender diversity in the senior executive levels. I measured the presence of women in senior board roles (i.e., board and committee chairs, SID's and executive directors) as well as the number of female board interlinks to determine whether different combinations of these 'conditions' were important in influencing women moving up the executive pipeline.

The results identify a number of board configurations that are consistently associated with higher levels of gender diversity in the executive levels. Companies with these configurations consistently have more women at executive levels than companies with a similar number of women on the board, but who do not hold these senior board roles. Our analysis suggests that it is not enough to simply increase the number of women on boards but that women must also participate in positions of power and status on the board in order to influence gender diversity below the board. To explore this finding and add rich texture to the findings we are now interested in interviewing board experts and board members with a perspective on board dynamics and gender diversity to gain insight into these observations.

## Appendix E: Summary of Collaborative Research Project



### EXECUTIVE SUCCESSION PLANNING – THE BOARD’S ROLE

Cranfield University, in partnership with The Board Advisory Partnership, is pleased to announce our collaboration on a research project investigating the Board’s role in the oversight of executive succession in general and particularly in developing a diverse and inclusive executive pipeline.

#### OBJECTIVE:

Our objective is to understand the scope and nature of Boards’ oversight in executive succession. We will seek to identify what approaches are being taken to monitoring the setting of the executive succession planning strategy and also to the oversight of its execution. We are particularly interested in what selection criteria are being used in internal promotions.

#### RATIONALE:

Succession planning and talent management are key to long term organisational success. At board level, succession planning activities have been focused on the CEO succession. Historically, once the CEO was selected, the recruitment and selection of other executives has traditionally been regarded purely as an executive function with little Board oversight.

The lack of progress in improving diversity at senior levels has led regulators, policy makers and investors to demand more transparency and increasingly look to boards to deliver on diversity objectives.

In the UK, there have been a number of government-sponsored, business led initiatives, such as the Hampton Alexander and Parker Reviews, to motivate UK corporates to improve board diversity. As a result, there have been improvements in the underrepresentation of both gender and ethnic minorities on UK boards. Most of these improvements, however, have been in non-executive positions leaving diversity of all kinds at the executive director level virtually unchanged. Recognizing that internal talent management processes at every level of the organisation are crucial to increasing diversity in and the quality of senior level appointments, talent management programs that aren’t structured to address inequalities may explain why diversity in executive director appointments has been constrained.

While overall, diversity in the executive levels of FTSE companies is disappointing, there are companies who have embraced diversity, recognizing it either as a performance enhancing strategy, a social justice issue, or both and have led their peers in addressing both the vertical and horizontal segregation of jobs in their organizations. This research is interested in revealing what oversight and reporting mechanisms boards are utilising to achieve a more inclusive approach to developing an executive pipeline that results in improvements in diversity in the executive levels.

#### APPROACH:

We propose to conduct several interviews with highly experienced and knowledgeable corporate directors to understand how, if at all, board oversight for succession addresses these issues. We hope that the research may stimulate thinking on Board engagement in executive succession planning, including some practical examples.

### *Cranfield University Researcher’s Bio’s*

#### **Susan Vinnicombe, CBE**

MA PhD FBAM CCMI  
Professor of Women and Leadership  
Cranfield School of Management

**E: [s.m.vinnicombe@cranfield.ac.uk](mailto:s.m.vinnicombe@cranfield.ac.uk)**



Susan held the Deloitte Ellen Gabriel Endowed Chair in Women’s Leadership at Simmons College, Boston, USA from 2013-2016. Her particular research interests are gender diversity on corporate boards, women’s leadership styles and the issues involved in women developing their managerial careers. Susan is Deputy Dean of the Fellows of the British Academy of Management and has been presented with the British Academy of Management Richard Whipp Lifetime Achievement Award in 2017. She has been identified as one of the top ten most influential people in Human Resources in the UK in 2016, 2017, 2018 and 2019. Susan has recently been inducted into the Thinkers50 Management Hall of Fame (founded in 2009, the Thinkers50 Hall of Fame honours the legacy of an elite group of thinkers whose work has had a profound and lasting influence on the world of management). Susan was a member of the Davies Steering Committee on the lack of women on FTSE boards and a member of the Hampton-Alexander Review of the lack of women in leadership in FTSE companies and is currently a member of the Steering Committee of Sir John Parker’s Review of the lack of ethnicity on FTSE 100 boards. Susan is Vice Patron of the charity Working Families. Susan was awarded an OBE in the Queen’s New Year’s Honours List in 2005 and a CBE in the Queen’s Birthday Honours List in 2014 for services to gender equality.

#### **Michelle Tessaro**

Doctoral Researcher  
Cranfield School of Management

**E: [michelle.tessaro@cranfield.ac.uk](mailto:michelle.tessaro@cranfield.ac.uk)**



Michelle’s research focuses on the lack of women in leadership positions and the impact that women on boards have in improving gender diversity below the board. Prior to joining academia, Michelle held a number of senior management finance roles in Canada, Europe and Asia. She has over 20 years of senior leadership experience in a number of different sectors leading business growth, driving profitability improvements, establishing and scaling operations and building operationally focused teams. Currently Michelle is a consultant and a non-executive director for an agri-business in Canada. Michelle is a Certified Management Accountant, received her MBA from the Richard Ivey School of Business in Canada and is a member of the British Academy of Management.

## **Appendix F - Data Management Plan**

### **Plan Overview**

**Title:** THE ROLE OF NUMBERS, POWER AND STATUS OF FEMALE CORPORATE DIRECTORS ON GENDER DIVERSITY BELOW THE BOARD

**Creator:** Michelle Tessaro

**Affiliation:** Cranfield University

**Funder:** n/a

### **Data Collection**

#### **What data will you collect or create?**

Boardex Data and data provided by FTSE Women Leader, Hampton Alexander Review (both public data).

Interview Data

#### **How will the data be collected or created?**

Board and Hampton Alexander Review data - Downloaded and analyzed in Microsoft Excel

Interview Data - Recorded in Zoom software

### **Documentation and Metadata**

#### **What documentation and metadata will accompany the data?**

Data stored in Microsoft excel and CSV files

#### **Ethics and Legal Compliance How will you manage any ethical issues?**

All research will be submitted for approval within the institutional ethical approval system, in accordance with the research ethics policy and research integrity policy statements.

Consent to participate collected for interviews

No ethical issues

**How will you manage copyright and Intellectual Property Rights (IPR) issues?**

No IPR issues

Data stored securely

### **Storage and Backup**

**How will the data be stored and backed up during the research?**

All data to be stored to Z drive, backed up regularly by IT services

**How will you manage access and security?**

Data stored on restricted access drive

### **Selection and Preservation**

**Which data are of long-term value and should be retained, shared, and/or preserved?**

Data to be securely stored and retained on CORD for at least ten years.

**What is the long-term preservation plan for the dataset?**

Data will be retained securely in Cranfield's institutional data repository, CORD, which preserves data for at least 10 years after project end, in accordance with Cranfield's Management of Research Data Policy and Strategy.

### **Data Sharing**

**How will you share the data?**

Data subject to sharing restrictions owing to commercial interests.

**Are any restrictions on data sharing required?**

None

**Responsibilities and Resources Who will be responsible for data management?**

Michelle Tessaro responsible for data collection and storage.

**What resources will you require to deliver your plan?**

Appropriate and up to date software necessary to collect data and analyze data included Microsoft Excel and fsQCA software.