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Women in Leadership Positions: Exploring Career Equality and Work-Life Inclusion through a Sectoral Lebanese Framework

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Abstract

Purpose: This study underscores the importance of integrating organizational practices, sectoral nuances, and individual abilities and capabilities to create supportive promotion for women leadership.
Design/methodology/approach: For this study, 432 Lebanese women in top managerial positions completed the survey. The research hypotheses were tested using structural equation modeling (SEM)
Findings: The findings highlight the pivotal role of women leaders in conflict resolution, strategic orientation, risk-taking, and credibility, emphasizing their ability to navigate biases, redefines organizational norms, and drive equity. Sector-specific analysis reveals unique challenges, particularly in male-dominated industries such as construction.
Originality: Practical implementation of inclusive policies and leadership models remains inconsistent, particularly concerning participative leadership styles and risk management frameworks. Organizations must address biases and stereotypes that undervalue women's competencies and adopt more comprehensive strategies to foster equitable leadership environments.

Keywords: Women; leadership; work-life inclusion; career equality; risk-taking, credibility, career progression.

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1. Introduction

The representation of women in leadership roles has become a focal point in global discussions on organizational equality and societal progress. Despite significant strides in gender equity, women continue to face systemic barriers that limit their access to senior positions across various sectors. These challenges are compounded by the dual responsibilities of career progression and personal

commitments, which often necessitate robust work-life strategies. Extensive research underscores the persistence of organizational and cultural barriers impeding women's access to leadership roles. These barriers are deeply rooted in gender biases and stereotypes, perpetuating an uneven playing field for career advancement (Galsanjigmed & Sekiguchi, 2023). The "glass ceiling" effect aptly captures these visible and invisible obstacles, despite formal progress in removing overt discriminatory initiatives or laws (Glass & Cook, 2016). For instance, McKinsey's Women in the Workplace report (2024) highlights challenges such as limited mentorship and sponsorship opportunities, especially for women from minority groups. Eagly and Carli's (2007) "labyrinth" model elucidates the complex, nonlinear career paths women navigate to reach leadership roles, a challenge further emphasized by Ito and Bligh (2024). These studies collectively demonstrate how implicit biases and male-dominated organizational cultures limit opportunities for women. Emerging strategies, such as diversity programs and ally ship initiatives, have shown promise in addressing these barriers (Brown & Patel, 2024).

Understanding how these dynamics unfold within specific sectoral frameworks is essential for developing actionable solutions tailored to different organizational contexts. For instance, women in industries such as technology and finance often face a disproportionately higher burden of bias and exclusion compared to those in healthcare or education, where female representation is traditionally higher (Gupta et al., 2019). While substantial progress has been made in understanding women's leadership, critical theoretical gaps persist. Women access to leadership positions remains underexplored, particularly regarding how overlapping identities shape leadership experiences. Similarly, the role of women's leadership in knowledge ecosystems, conflict resolution, and risk management requires deeper theoretical grounding. The theoretical underpinnings of this study draw upon frameworks of gender equity and inclusion, which emphasize the importance of dismantling institutional biases while fostering supportive environments.

For women leaders, the intersection of professional demands and societal expectations around caregiving often results in higher rates of attrition and lower career satisfaction (Tiron-Tudor & Faragalla, 2022). Thus, achieving gender equity necessitates an integrated approach that considers organizational practices, sector-specific dynamics, and societal norms. This study seeks to explore these issues through a sectoral framework, providing a comprehensive analysis of women's leadership trajectories. By examining career equality and work-life inclusion across sectors, this research aims to contribute to the growing body of literature on gender equity while offering practical insights for fostering inclusive leadership practices.

2. Literature review

The topic of women in leadership has garnered significant attention in both academic and professional spheres. While progress has been made in understanding gender disparities, the existing body of literature still reveals critical gaps, particularly concerning the intersection of career progression, work-life inclusion, and sector-specific challenges. This review synthesizes key findings and identifies areas requiring further exploration, focusing on structural barriers, leadership competencies, and the interplay between work-life dynamics and organizational culture. To provide a comprehensive perspective, the discussion is structured around three key themes:

barriers to career progression, leadership competencies, and the integration of work-life inclusion within leadership frameworks.

2.1. Women leadership and conflict resolution management

In the corporate sector, differences in conflict resolution and leadership styles between women and men reflect broader societal trends. Women leaders bring unique conflict resolution approaches that emphasize collaboration and empathy, fostering cohesion within teams and boards (Bear et al., 2010; Zivkovic, 2022). Women's approaches are often characterized by collaboration, empathy, and inclusivity, fostering team cohesion and sustainable relationships. By prioritizing open communication and relational approaches, women leaders help bridge gaps between stakeholders, minimizing opportunistic behaviors (Kossek & Buzzanell, 2018). Transformational leadership styles, often employed by women, are highly effective in mediating disputes and aligning divergent perspectives (Eagly, 2012). These styles emphasize communication, empathy, and stakeholder engagement, which can be instrumental in reducing agency costs - efforts and resources expended to mitigate conflicts between principals and agents. In addition to that, women leaders often adopt participatory decision-making processes, which promote inclusivity and shared ownership of decisions. According to agency theory, involving stakeholders in decisions can reduce monitoring costs and align interests (Liu et al., 2021). Participatory leadership helps mitigate principal-agent conflicts by ensuring that diverse perspectives are considered and that decisions are perceived as equitable. Men's styles tend to emphasize assertiveness, hierarchy, and decisiveness, which can be effective for quick decision-making but may not address deeper conflicts or promote team unity. These contrasting styles underscore the importance of hybrid leadership, blending collaborative and assertive elements for dynamic and diverse environments. Negotiation, a critical aspect of leadership, also highlights gendered approaches (Mackay, 2021). Women often adopt relational strategies, focusing on building trust and understanding stakeholder interests for mutually beneficial outcomes (Bowles et al., 2021). Men, on the other hand, are more likely to employ competitive tactics aimed at achieving clear-cut goals. While both styles have merits, the most effective negotiation strategies integrate collaboration and competition, allowing flexibility to adapt to various contexts. The underrepresentation of women in senior roles limits the visibility of their leadership styles. Promoting gender diversity in leadership and negotiation roles enriches organizational capabilities by incorporating varied perspectives and strategies. Training programs that cultivate both assertive and collaborative skills prepare leaders to manage conflicts, build relationships, and drive sustainable success. Organizations that embrace diverse leadership and negotiation styles are better equipped to navigate complex challenges and seize opportunities in competitive markets. It is therefore hypothesized that:

H1: There is a positive relationship between conflict resolution management and women leadership.

2.2. Women leadership and strategic orientation

Strategic orientation is an essential competency for leadership, as it defines an organization's ability to align its resources, capabilities, and goals with a dynamic competitive environment. The Knowledge-Based View (KBV) of competitive advantage, as proposed by Grant (1996), emphasizes the role of knowledge as a central organizational resource that drives innovation and sustainable competitive advantage. In this context, women leaders often bring unique contributions

to strategic orientation by fostering knowledge-sharing and inclusivity, which are key principles of KBV. Women leaders are widely recognized for their collaborative and participatory approaches to leadership (Pierli et al., 2022). These approaches naturally align with KBV, which prioritizes the integration and application of diverse knowledge across organizational units. By creating inclusive environments, women leaders facilitate open communication and the exchange of ideas, enabling the organization to leverage collective expertise for strategic decision-making. Inclusivity in leadership enhances the organization's ability to develop innovative strategies, a core aspect of KBV. Women leaders are particularly adept at fostering diverse perspectives, which can challenge existing norms and inspire creative problem-solving. Strategic orientation that incorporates inclusivity is more likely to address complex, multifaceted challenges by leveraging the cognitive diversity of the team. It is therefore hypothesized that:

H2: There is a positive relationship between strategic orientation and women leadership.

2.3. Women leadership and risk-taking

Women leaders often demonstrate a preference for calculated risk-taking, which involves a careful evaluation of potential outcomes and alignment with organizational objectives (Darouei & Pluut, 2018). This approach includes analytical decision-making, emphasizing data-driven strategies over intuition, and collaborative risk assessment, where diverse stakeholder perspectives are leveraged to mitigate uncertainties and enhance decision quality. The calculated risk-taking approach of women leaders plays a significant role in reducing transaction costs within organizations. Women leaders prioritize analytical decision-making, which relies on data-driven strategies and thorough evaluations rather than intuition alone. This method significantly reduces information asymmetry, a key source of uncertainty in decision-making (Williamson, 1981). By ensuring that decisions are based on reliable and comprehensive information, women leaders mitigate the unpredictability of outcomes, making organizational risks more manageable. For instance, calculated risk-taking reduces the likelihood of costly disruptions caused by unforeseen events, aligning with TCT's emphasis on lowering the costs of managing risk and uncertainty (Coase, 1937). The collaborative risk assessment employed by women leaders fosters trust and cooperation among stakeholders. By involving diverse perspectives in the decision-making process, women leaders ensure that stakeholder's feel valued and aligned with organizational goals (Ahmed et al., 2018). For Williamson (1985), reducing uncertainty is a fundamental aspect of minimizing transaction costs, as it diminishes the need for extensive monitoring and contingency planning. Women leaders, through their emphasis on analytical rigor, establish a stable and resilient decision-making framework that enhances organizational efficiency. Their inclusive approach further reduces the need for prolonged negotiations and monitoring, which are key contributors to transaction costs (Barney & Hesterly, 1996). By fostering collaboration and minimizing conflicts, women leaders decrease reliance on costly enforcement mechanisms, aligning with the TCT core principles (Jensen & Meckling, 1976).

Furthermore, the trust cultivated through collaboration reduces potential conflicts, leading to more sustainable agreements and stronger stakeholder relationships. Women leaders' ability to carefully evaluate risks and integrate input from multiple stakeholders enables efficient resource allocation, a critical factor in minimizing transaction costs. By directing organizational efforts toward high-value opportunities and avoiding the inefficiencies associated with hasty or uninformed decisions,

women leaders ensure that resources are utilized optimally. This aligns with the TCT framework, which underscores the importance of resource coordination to reduce operational and governance costs (Ghoshal & Moran, 1996). It is therefore hypothesized that:

H3: There is a positive relationship between risk-taking and women leadership.

2.4. Women leadership and credibility

According to Identity Theory, individuals derive a sense of self from their membership in social groups. Tajfel and Turner (2004) highlight the tendency of individuals to categorize others into in-groups and out-groups, which can perpetuate biases. Women leaders often belong to an "out-group" in male-dominated industries, where their credibility may be scrutinized more intensely. By emphasizing transparency, ethical behavior, and relational leadership, women leaders can counteract these biases and redefine their group identity. Women leaders often face challenges due to their underrepresentation in leadership roles, which positions them as a minority group in male-dominated environments. To establish credibility, women leaders must align their behavior with the values and expectations of their organizational and professional groups while simultaneously challenging stereotypes associated with their gender. By demonstrating expertise and delivering consistent results, women leaders align their identity with the professional group's norms of excellence. These traits, often associated with women's leadership styles, resonate with broader organizational values like inclusivity and collaboration, enhancing their credibility within the group (Fox-Kirk et al., 2017). The identity theory underscores the importance of validation from the group in reinforcing one's social identity. Women leaders gain credibility through the acknowledgment of their contributions by peers, subordinates, and stakeholders. This validation strengthens their professional identity and amplifies their influence. In reference to the existing literature, the following hypothesis is proposed:

H4: There is a positive relationship between woman credibility and women leadership.

2.5. Women leadership and career equality

Career equality refers to the elimination of barriers that prevent individuals from achieving equitable access to resources, opportunities, and advancement, regardless of gender. Women leaders, through their unique leadership styles and advocacy, contribute significantly to leveling the playing field. This dynamic can be analyzed through the lens of Transformational Leadership Theory, which emphasizes inspiring change, fostering inclusivity, and challenging the status quo (Bass, 1990). Women leaders actively advocate for equitable hiring, promotion, and training opportunities, challenging gender disparities that have historically limited career advancement for women. Transformational leadership, characterized by inspiring and motivating others to achieve their full potential, aligns closely with women leadership's impact on career equality. Women leaders often exhibit transformational traits by focusing on empowerment, inclusivity, and long-term growth. Women leaders challenge traditional norms and drive cultural shifts that prioritize equality. This includes advocating for flexible work arrangements, transparent promotion criteria, and pay equity, which collectively foster career equality (Eagly & Carli, 2007). Research by Pirtskhalaishvili et al. (2021) demonstrates that such policies directly contribute to closing career equality gaps. Based on the presented literature, the following is hypothesized:

H5: There is a positive relationship between women leadership and career equality.

2.6. Career equality and work-life inclusion

Abdulrahman and Amoush (2020) highlight how conflicts between these domains disproportionately affect women leaders, often constraining their career growth. Flexible working arrangements and childcare support have proven effective in mitigating these challenges (Archer & Kam, 2022). However, implementation gaps persist. Companies that adopt inclusive strategies report improved gender representation and leadership retention (Johnson & Smith, 2021). Work-life balance has evolved into a more inclusive concept termed "work-life inclusion", emphasizing the integration of professional and personal responsibilities within organizational policies (DeSimone, 2020). Career equality involves ensuring fair access to opportunities, resources, and advancement for all employees, while work-life inclusion emphasizes balancing professional and personal responsibilities through inclusive workplace practices. Career equality eliminates barriers such as gender bias, unequal pay, and limited access to leadership positions, which often prevent employees from fully benefiting from work-life inclusion initiatives (Kossek & Buzzanell, 2018). Work-life inclusion reduces employee turnover, particularly among women, by addressing the challenges of work-family conflict. Retaining talented employees ensures a more diverse leadership pipeline, contributing to career equality over time (Eagly & Carli, 2007). Equitable practices enhance trust between employees and organizations, making employees more likely to engage with and value work-life inclusion programs. This aligns with the social exchange theory (SET), which posits that fair treatment fosters reciprocal loyalty, commitment, fairness and inclusion in the workplace (Blau, 1964). The below hypothesis is therefore generated based on the above literature:

H6: There is a positive relationship between career equality and work-life inclusion.

2.7. Work-life inclusion and career progression

Work-life inclusion provides employees with the flexibility and support needed to pursue their career goals without sacrificing personal well-being. Organizations that promote work-life inclusion enable employees, particularly women and caregivers, to remain engaged in their careers and access advancement opportunities. Flexible work arrangements allow employees to manage competing priorities, reducing the career penalties often associated with caregiving responsibilities. This levels the playing field and promotes equitable career progression (Kossek & Lee, 2021). In addition to that, these resources equip female employees with the tools needed for career progression, bridging gaps in opportunities traditionally skewed against underrepresented groups (Kossek & Buzzanell, 2018). The following hypothesis is presented based on the above:

H7: There is a positive relationship between work-life inclusion and career progression.

3. Method

3.1.Data collection and sample

Women operating in top managerial positions in Lebanon were exclusively invited to participate in this study on women leadership. An online survey, created using Google Forms, was distributed over 2 month period starting on August 2024. Using the judgmental sampling, also known as

purposive sampling, the survey link was shared via the participants' professional networks, including LinkedIn, WhatsApp, and email. The judgmental sampling is a non-probability sampling technique where the researcher selects participants based on their judgment about who would be most beneficial or relevant for the study. Prior to wide distribution, the survey was piloted with 55 representative participants from Lebanon to ensure the clarity of the questions and the trustworthiness and rationality of the data. This aligns with Johanson and Brooks (2010), who recommend a pilot group size of 24–36 representative participants. The sample size was determined using Smith's (2013) formula at a 95% confidence level, with a 5% margin of error, a standard deviation of 0.5, and a Z-score of 1.96. Accordingly, 385 respondents were required. Krejcie and Morgan (1970) similarly concluded that as population size increases, the required sample size stabilizes at approximately 380 responses. For this study, 432 Lebanese women in top managerial positions completed the survey.

3.2.Measurement of variables

The survey was structured into five sections, with responses assessed using a ten-point Likert scale ranging from "strongly disagree" to "strongly agree". Each section focused on a specific set of variables. Conflict resolution (CR) was measured using the following items: mediating conflicts to reach mutually beneficial solutions, handling disagreements among team members constructively, prioritizing open communication to resolve disputes effectively, and confidently facilitating discussions to align divergent viewpoints (Hussain, 2024). Strategic orientation (SO) was assessed through items that measured the ability to develop long-term strategies aligned with organizational goals, ensure that team members understand and contribute to the strategic vision, incorporate diverse perspectives when formulating strategies (Arun & Yildirim Özmutlu, 2023), and make decisions confidently to achieve strategic objectives. Risk-taking (RT) was evaluated using the following items: approaching risks in a calculated and strategic manner, evaluating potential risks and benefits before making decisions, taking measured risks that align with long-term organizational goals, and balancing innovation with caution when making strategic decisions (Darouei & Pluut, 2018). Women credibility (WC) was measured through items that assessed personal reliability in providing guidance and advice (Dashper, 2020), demonstrating integrity in professional actions, earning trust and respect for decisions taken by peers and subordinates, and having individual expertise and skills acknowledged as essential to a team's success (Thelma & Ngulube, 2024).

Women leadership (LEAD) was measured through items that evaluated colleagues' perceptions of women as trustworthy leaders, demonstration of integrity in leadership actions, recognition of women leaders' competence by others, and being perceived as reliable and dependable by peers (Halliday et al., 2021).

Career equality (CE) was assessed using items that focused on promoting equitable opportunities within the company, dismantling barriers that hinder career progression for underrepresented groups (Kossek & Buzzanell, 2018), ensuring fair access to resources and opportunities for all team members, and recognizing leadership actions that contribute to reducing structural inequalities within the company (Pirtskhalaishvili et al., 2021). Work-life inclusion (WLI) was measured using items that assessed providing flexible working arrangements that support work-life balance, supporting women leaders in managing both professional and personal

responsibilities, fostering an inclusive culture that values work-life integration, and offering resources (e.g., childcare support) to help balance work and family life (Kossek & Lee, 2021). Career progression (CP) was assessed through items that evaluated access to ample opportunities for professional growth and career advancement, providing sufficient support for developing skills necessary to progress in a career (Kossek & Buzzanell, 2018), ensuring that promotions are merit-based and align with career goals, acknowledging and rewarding individual contributions, and supporting career progression (Calinaud et al., 2021).

4. Results

This section presents descriptive statistics of the sample and evaluates the measurement model's goodness of fit, validity, and reliability using confirmatory factor analysis (CFA). The research hypotheses were tested using SEM. Data treatment was conducted with JASP software, first for the overall model and subsequently for the sectoral analysis.

4.1. Sample's descriptive

The sample comprises 432 women in top managerial positions in Lebanon. The age distribution of the sample indicates a diverse range of women participants. The majority of respondents, 39.6% (171 participants), fall within the 25–35 age groups, representing the largest segment of the sample. This is followed by the 36-45 age group, comprising 34.7% (150 participants), which cumulatively accounts for 74.3% of the total respondents when combined with the younger age group. Participants aged 46–55 make up 19.4% (84 individuals) of the sample, while those in the 56–65 age groups represent the smallest portion at 6.3% (27 individuals). The sector distribution of the sample highlights a balanced representation across six key industries. The Real Estate and Property Management sector constitutes the largest group, with 18.8% (81 participants), followed closely by Transportation and Logistics at 18.3% (79 participants). Together, these two sectors account for 37.1% of the sample, showcasing their prominence in the study. The Hospitality and Tourism sector contributes 16.2% (70 participants), while Healthcare and Pharmaceuticals makes up 16.0% (69 participants), reflecting substantial involvement from these fields. Similarly, Retail and Wholesale Trade represents 15.7% (68 participants), and Construction and Civil Engineering accounts for 15.0% (65 participants). The Real Estate and Property Management sector has the largest representation, comprising 18.8% (81 participants) of the sample. This is closely followed by the Transportation and Logistics sector, which accounts for 18.3% (79 participants), indicating its significant contribution to the dataset. The Hospitality and Tourism sector contributes 16.2% (70 participants), and Healthcare and Pharmaceuticals closely follows with 16.0% (69 participants). Similarly, the Retail and Wholesale Trade sector represents 15.7% (68 participants), while Construction and Civil Engineering makes up 15.0% (65 participants).

4.2. Measurement tools

As indicated by the substantial reduction in the Chi-square value, the factor model demonstrates a significantly better fit compared to the baseline model. While the p-value remains significant, the results suggest that the factor model offers a more plausible representation of the data structure under the tested theoretical assumptions.

Table 1:
Model fit

Chi-square test

Model	X^2	df	p
Baseline model	9246.858	496	
Factor model	974.889	436	< .001

Note. The estimator is ML.

Table 2 summarizes key fit indices used to evaluate the adequacy of the factor model. These indices provide additional insights into the goodness-of-fit beyond the Chi-square test, particularly useful when sample sizes are large, and Chi-square tends to overestimate discrepancies. The factor model shows strong overall fit as evidenced by the high CFI, TLI, NNFI, IFI, and RNI values. While the NFI and RFI are slightly below optimal thresholds, they do not detract significantly from the model's robustness. These results suggest the model adequate capture the underlying structure of the data.

Table 2:
Additional fit measures

Index	Value
Comparative Fit Index (CFI)	0.938
Tucker-Lewis Index (TLI)	0.930
Bentler-Bonett Non-normed Fit Index (NNFI)	0.930
Bentler-Bonett Normed Fit Index (NFI)	0.895
Parsimony Normed Fit Index (PNFI)	0.786
Bollen's Relative Fit Index (RFI)	0.880
Bollen's Incremental Fit Index (IFI)	0.939
Relative Noncentrality Index (RNI)	0.938

As provided by Table 3, the dataset demonstrates strong suitability for factor analysis, as indicated by the overall KMO value of 0.873 and predominantly high MSAs. This provides solid a foundation for extracting meaningful factors from the data. Further attention to weaker indicators will enhance the robustness of subsequent analyses.

Bartlett's test of sphericity

X^2	df	p
9002.854	496	< .001

Table 3:
KMO and Bartlett's test of sphericity

Bartlett's test of sphericity		
X^2	df	p

Kaiser-Meyer-Olkin (KMO) test	
Indicator	MSA
Overall	0.873

The AVE results indicate satisfactory convergent validity across all factors, with particularly strong performance from Factors 1 and 2. Overall, the AVE value provides a robust foundation for continued model evaluation and validation.

Table 4:
Average variance extracted

Factor	AVE
Factor 1	0.722
Factor 2	0.702
Factor 3	0.646
Factor 4	0.652
Factor 5	0.607
Factor 6	0.642
Factor 7	0.566
Factor 8	0.676

While α is a widely used metric, ω is often more robust as it accounts for varying item loadings. Consistency between the two metrics indicates strong reliability across factors. The reliability analysis confirms excellent overall reliability for the model, with all factors demonstrating good to excellent internal consistency.

Table 5:
Reliability

	Coefficient ω	Coefficient α
Factor 1	0.912	0.912
Factor 2	0.903	0.904
Factor 3	0.874	0.863
Factor 4	0.885	0.878

	Coefficient ω	Coefficient α
Factor 5	0.863	0.859
Factor 6	0.875	0.872
Factor 7	0.828	0.813
Factor 8	0.894	0.892
total	0.918	0.899

The HTMT analysis confirms that discriminant validity is well-established across all factors. None of the constructs exhibit significant overlap, ensuring that each factor measures a distinct aspect of the theoretical framework. These results reinforce the robustness of the measurement model and provide confidence in the validity of the constructs.

Table 6:
Validity

Heterotrait-monotrait ratio

Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
1.000							
0.485	1.000						
0.600	0.478	1.000					
0.266	0.152	0.383	1.000				
0.360	0.119	0.520	0.348	1.000			
0.336	0.200	0.236	0.479	0.149	1.000		
0.053	0.027	0.020	0.093	0.059	0.297	1.000	
0.172	0.111	0.155	0.221	0.161	0.349	0.244	1.000

4.3. Structural model and research hypothesis validation

CR shows a statistically significant ($p = 0.028$) and a positive effect on women leadership, suggesting that effective conflict resolution enhances leadership capabilities. Therefore, H1 is validated.

SO shows a moderate positive effect on women leadership, significant at $p = 0.011$, implying that women leaders who adopt a forward-looking and strategic approach are better positioned to establish themselves as influential leaders. Therefore, H2 is validated.

RT strongly predicts leadership, with the largest positive effect ($p < .001$). This underscores the importance of calculated risk-taking in bolstering women's leadership roles, as it reflects confidence and decisiveness. For every unit increase in risk-taking, leadership increases by 0.474 units. Therefore, H3 is validated.

WC shows a statistically significant effect of work climate on leadership ($p = 0.016$), indicating that the perception of credibility plays a crucial role in empowering women to lead effectively.

Therefore, H4 is validated. Together, these factors highlight the multidimensional aspects of leadership, emphasizing how a combination of conflict resolution, strategic thinking, risk tolerance, and credibility contributes to women's leadership success.
LEAD significantly predicts CE, with a moderate positive effect ($p < .001$). A 1-unit increase in women leadership results in a 0.265 unit increase in career equality. This finding suggests that effective women leaders actively contribute to reducing disparities in career opportunities, thereby promoting greater equality. Therefore, H5 is supported.
CE significantly predicts WLI. A 1-unit increase in CE is associated with a 0.193 unit increase in WLI. This implies that when employees experience an inclusive and supportive work environment, they are more likely to achieve career advancement. Therefore, H6 is validated. This indicates that when female employees feel included and supported in balancing their personal and professional lives, career opportunities are equitable. Therefore, H6 is supported. CE strongly predicts CP ($p < .001$), with a 0.294 unit increase in career progression for every 1-unit increase in career equality. Thus, H7 is supported.

Table 7:
Regression coefficients for the conceptual model

Regression coefficients

						95% Confidence Interval	
Outcome	Predictor	Estimate	Std. Error	z-value	p	Lower	Upper
CE	LEAD	0.265	0.066	3.997	< .001	0.135	0.394
CP	CE	0.294	0.047	6.238	< .001	0.202	0.386
LEAD	CR	0.128	0.058	2.197	0.028	0.014	0.242
	SO	0.203	0.080	2.534	0.011	0.046	0.359
	RT	0.474	0.075	6.343	< .001	0.328	0.621
	WC	0.106	0.044	2.401	0.016	0.020	0.193
WLI	CE	0.193	0.041	4.769	< .001	0.114	0.273

The SEM diagram visually demonstrates how CR, SO, RT, and WC collectively influence Women Leadership (LEAD). These relationships are supported by the regression coefficients, which highlight the individual impact of each variable. The positive relationship ($\beta=0.128$, $p=0.028$) between CR and LEAD indicates that women who exhibit strong conflict resolution skills are perceived as more effective leaders. In the SEM diagram, CR is directly related to LEAD, emphasizing its role in fostering trust and collaboration within teams. SO shows a significant

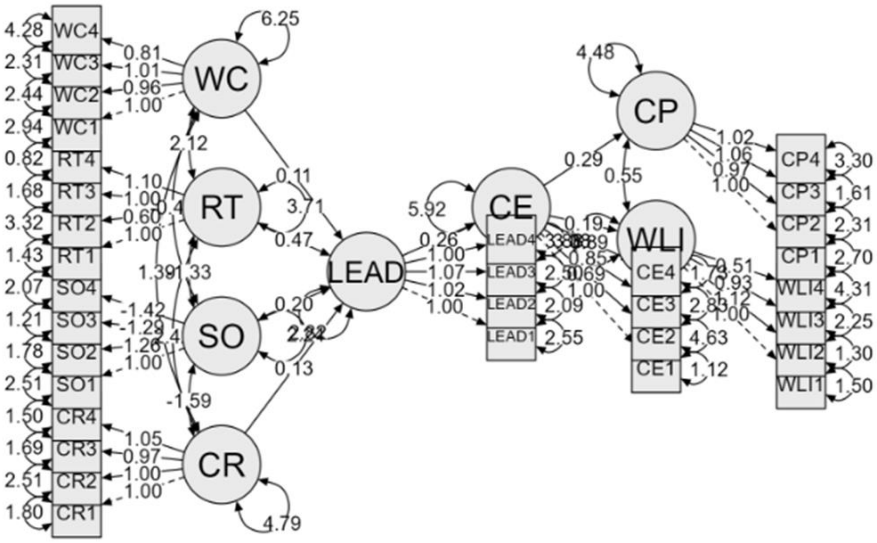
positive impact on LEAD (β=0.203, p=0.011). The SEM diagram reflects this by showing also how strategic thinking enables women to set long-term goals and align organizational actions with these goals, thereby enhancing their leadership skills.

RT emerges as the most significant predictor of LEAD (β=0.474, p<.001), indicating that the willingness to take calculated risks is a hallmark of effective women leaders. In the SEM, this strong relationship underscores how risk-taking fosters confidence and innovation, critical traits for leadership. WC positively influences LEAD (β=0.106, p=0.016), highlighting that perceived credibility strengthens leadership potential. The SEM diagram links WC directly to LEAD, reinforcing the importance of trustworthiness and authenticity in establishing leadership authority.

The SEM diagram illustrates the path from LEAD to CE, supported by the regression results (β=0.265, p<.001). Women leaders drive career equality by advocating for inclusive policies, mentorship programs, and equitable promotion practices. The diagram's representation of LEAD feeding into CE emphasizes that effective leadership is crucial for dismantling barriers and ensuring equal opportunities in the workplace. This relationship suggests that empowering women in leadership positions creates a ripple effect, enabling more equitable work environments. CE significantly influences WLI (β=0.193, p<.001), as shown in both the SEM diagram and the regression results. When career opportunities are distributed equitably, female employees feel valued and supported, contributing to better work-life balance and inclusion.

The SEM demonstrates, as well, CE impacting positively WLI, highlighting the critical role of fairness and inclusivity in fostering workplace satisfaction and integration. For women leaders, this finding underscores the importance of equitable practices in creating a supportive work environment that accommodates diverse employee needs. The SEM diagram's final relationship shows WLI directly impacting CP, validated by the regression coefficient (β=0.294, p<.001). This indicates that when organizations prioritize work-life inclusion, employees are better equipped to achieve career advancement. Women leaders promoting flexible work arrangements and inclusive policies contribute to these dynamic, enabling employees to balance personal and professional growth effectively. This relationship highlights the role of supportive environments in driving individual and organizational success, with WLI acting as a bridge between equality and career progression.

Figure 1:
SEM of the conceptual model



4.4.Research hypothesis validation for the retail and wholesale trade sector

CR has a positive and statistically significant impact on women's leadership. Estimate = 0.152, p = 0.021 (significant), with a 95% confidence interval of [0.023, 0.281]. This suggests that women who excel at resolving conflicts are better able to navigate the complexities of organizational dynamics, fostering trust and collaboration within teams. Women who can resolve disputes effectively are well-suited for leadership roles, especially in a sector reliant on interpersonal relationships and efficient team dynamics. SO is a critical driver of leadership, with the highest impact among all predictors. Estimate = 0.635, p = 0.012 (highly significant), with a confidence interval of [0.141, 1.129] Women who exhibit strategic foresight and align their goals with organizational objectives are significantly more likely to emerge as effective leaders. The high estimate underscores the transformative role of strategic thinking in enabling leadership success. RT is another important factor that positively influences women's leadership. Estimate = 0.298, p = 0.034 (significant), with a confidence interval of [0.023, 0.572]. Women leaders who are willing to take calculated risks demonstrate decisiveness and adaptability, key qualities in overcoming challenges and driving innovation (Mogaji & Dimingu, 2024). Although its influence is moderate compared to strategic orientation, it remains essential for leadership effectiveness (Oliver et al., 2024). WC is the strongest and most significant predictor of women's leadership (Thelma & Ngulube, 2024). Estimate = 0.359, p < 0.001 (highly significant), with a confidence interval of [0.192, 0.526]. Women who build trust and maintain a reliable reputation are better positioned to inspire and lead teams effectively. The high estimate reflects the importance of integrity and trustworthiness in shaping perceptions of leadership capability. Leadership development for women is driven by a combination of interpersonal skills (conflict resolution), strategic competencies (orientation and risk-taking), and personal attributes (credibility). The strong statistical significance of these predictors reinforces their relevance in enhancing leadership capabilities. LEAD has a significant and positive effect on CE. Estimate = 0.309, p < 0.001 (highly

significant), with a confidence interval of [0.163, 0.455]. The estimate indicates that for every unit increase in LEAD, there is a substantial improvement in CE. This relationship underscores the role of women leaders in fostering inclusive practices, breaking down systemic barriers, and ensuring fair career advancement opportunities for all employees. The highly significant p-value highlights the robustness of this finding, suggesting that empowering women in leadership roles can lead to meaningful progress toward workplace equality. CE significantly enhances WLI. Estimate = 0.559, $p < 0.001$ (highly significant), with a confidence interval of [0.384, 0.733]. This high estimate suggests that equitable career opportunities improve women's ability to balance professional and personal responsibilities (Owusu, 2024). The wide confidence interval reflects the variability across different sectorial contexts, yet the consistently positive impact emphasizes the importance of fostering fairness in career growth to improve work-life integration. The high statistical significance of this relationship suggests that addressing gender biases and ensuring equal treatment are critical steps in creating an inclusive work environment. WLI has a significant positive effect on CP. Estimate = 0.366, $p < 0.001$ (highly significant), with a confidence interval of [0.157, 0.576]. The estimate suggests that improving work-life balance throughout providing flexible initiatives and a supportive culture allows women to advance in their careers (Bulut et al., 2024). The statistically significant p-value highlights the importance of inclusion efforts as an enabler of career growth. Organizations that prioritize work-life integration are better positioned to retain talent and foster upward mobility for women.

Table 8:
Regression coefficients for the retail and wholesale trade sector
Regression coefficients

							95% Confidence Interval	
Group	Outcome	Predictor	Estimate	Std. Error	z-value	p	Lower	Upper
Retail and Wholesale Trade	CE	LEAD	0.309	0.075	4.149	< .001	0.163	0.455
	CP	WLI	0.366	0.107	3.435	< .001	0.157	0.576
	LEAD	CR	0.152	0.066	2.303	0.021	0.023	0.281
		SO	0.635	0.252	2.519	0.012	0.141	1.129
		RT	0.328	0.155	2.121	0.034	0.025	0.632
		WC	0.359	0.085	4.222	< .001	0.192	0.526
	WLI	CE	0.559	0.089	6.273	< .001	0.384	0.733

SO (Estimate = 0.635, $p = 0.012$) is the strongest predictor of women's leadership, emphasizing the importance of vision and planning. WC (Estimate = 0.359, $p < 0.001$) and CR (Estimate = 0.152, $p = 0.021$) are also critical, reflecting the need for trust and strong interpersonal skills. RT (Estimate = 0.328, $p = 0.034$) plays a complementary role, enabling leaders to make bold and confident decisions.

Women leaders significantly improve CE (Estimate = 0.309, $p < 0.001$), driving inclusivity and fairness across the organization. CE strongly drives WLI (Estimate = 0.559, $p < 0.001$), allowing

women to balance their responsibilities effectively. WLI significantly impacts CP (Estimate = 0.366, $p < 0.001$), underscoring the role of supportive policies in fostering career growth.

The research findings demonstrate that women leaders in the retail and wholesale trade sector have a strong aptitude for conflict resolution management, employing collaborative approaches to manage conflicts within diverse teams. Their focus on strategic orientation often drives innovations in customer engagement such as leveraging e-commerce platforms. Women also demonstrate calculated risk-taking in inventory management and market expansion, balancing operational efficiency with customer satisfaction (Eagly & Carli, 2007). Credibility, in this sector, is built on consistent performance and effective interpersonal communication allowing women to influence key stakeholders (Chuang, 2024). This, in turn, fosters career progression, ensuring more women ascent to senior positions and remains active in leadership pipelines (Smith et al., 2021). In the retail and wholesale trade sector, strategic thinking, credibility, and inclusivity are vital for leadership and career advancement. Organizations can, therefore, foster women's leadership and career progression by implementing equitable policies and supporting a balance between work and personal life.

4.5.Research hypothesis validation for the transportation and logistics sector

CR is a substantial and highly significant predictor of women's leadership in this sector. Estimate = 0.579, $p < 0.001$, with a confidence interval of [0.439, 0.719]. The high estimate suggests that women who excel in resolving disputes and managing interpersonal conflicts demonstrate stronger leadership abilities (Hussain, 2024). This finding underscores the importance of interpersonal and negotiation skills for women leaders in the complex and dynamic environment of transportation and logistics (Yang et al., 2024). SO is the most influential factor for driving women's leadership. It shows the highest estimate among all predictors. Estimate = 0.787, $p < 0.001$, with a confidence interval of [0.658, 0.916]. This strong relationship reflects the critical importance of vision, planning, and strategic thinking in leadership roles. Women who excel in aligning organizational goals with long-term strategies are more likely to emerge as leaders in this competitive industry. RT is another significant predictor of leadership, emphasizing the role of calculated decision-making and confidence in uncertain scenarios. Estimate = 0.328, $p < 0.001$, with a confidence interval of [0.208, 0.448]. Although its estimate is lower compared to other predictors, its significance highlights its importance in leadership development. WC is positively associated with women's leadership, indicating that trustworthiness and reliability are essential for leading effectively in this sector. Estimate = 0.208, $p = 0.021$, with a confidence interval of [0.032, 0.384]. While the estimate is smaller, its significance suggests that credibility remains a foundational element of leadership. In the transportation and logistics industry, women leaders thrive when they exhibit strong strategic orientation, conflict resolution skills, risk-taking capabilities, and credibility (Yang et al., 2024). The high statistical significance of these predictors highlights their importance in shaping leadership effectiveness (Maemunah et al., 2023). LEAD significantly impacts CE, with a large and highly significant estimate. Estimate = 0.546, $p < 0.001$, with a confidence interval of [0.407, 0.685]. This suggests that empowering women leaders contributes to a more equitable workplace, where employees have access to fair opportunities for career growth. In the transportation and logistics sector, women leaders appear to play a pivotal role in breaking down systemic barriers and promoting inclusivity.

CE is strongly and positively related to work-life inclusion. Estimate = 0.373, $p < 0.001$, with a confidence interval of [0.163, 0.582]. The estimate suggests that equitable career opportunities enhance women ability to balance personal and professional lives. The significant p-value reinforces the critical connection between equality and inclusion, emphasizing that fostering fairness in career advancement can lead to greater work-life harmony for women in this sector. WLI has a significant positive effect on career progression. Estimate = 0.400, $p = 0.021$, with a confidence interval of [0.063, 0.741]. The estimate indicates that improving work-life balance through supportive policies and flexible work arrangements contributes to the upward mobility of women in their careers. The statistical significance of this relationship underscores the importance of work-life inclusion as a key driver of career advancement in the transportation and logistics industry.

Table 9:
Regression coefficients for the transportation and logistics sector
Regression coefficients

							95% Confidence Interval	
Group	Outcome	Predictor	Estimate	Std. Error	z-value	p	Lower	Upper
Transportation and Logistics	CE	LEAD	0.546	0.071	7.701	< .001	0.407	0.685
	CP	WLI	0.4	0.174	2.305	0.021	0.06	0.741
	LEAD	CR	0.579	0.071	8.099	< .001	0.439	0.719
		SO	0.787	0.076	10.367	< .001	0.638	0.936
		RT	0.328	0.061	5.35	< .001	0.208	0.448
		WC	0.208	0.09	2.313	0.021	0.032	0.384
	WLI	CE	0.373	0.107	3.486	< .001	0.163	0.582

SO (Estimate = 0.787, $p < 0.001$) emerges as the most critical driver, reflecting the importance of visionary thinking and planning. CR (Estimate = 0.579, $p < 0.001$) highlights the value of interpersonal skills in managing teams and resolving disputes. RT (Estimate = 0.328, $p < 0.001$) and WC (Estimate = 0.208, $p = 0.021$) also play significant roles, showcasing the importance of self-confidence and trustworthiness. LEAD have a significant and positive impact on CE (Estimate = 0.546, $p < 0.001$), fostering a culture of inclusivity and fairness in the workplace. CE strongly drives WLI (Estimate = 0.373, $p < 0.001$). WLI significantly enhances CP (Estimate = 0.400, $p = 0.021$), emphasizing the role of supportive workplace practices in fostering career growth.

Organizations in the transportation and logistics industry must prioritize leadership development, equitable policies, and work-life inclusion to empower women and promote their career progression. The strong statistical significance of these relationships underscores the importance of strategic initiatives that address gender disparities and support women in their professional journeys.

This sector has traditionally been male-dominated, with women facing challenges in career advancement due to stereotypes and a lack of supportive policies (Han, 2024). Efforts to increase female representation in leadership include implementing diversity training and creative inclusive

workplace environments. The transportation and logistics sector remains heavily male-dominated, with women comprising only a small fraction of leadership positions (Tran et al., 2024). Women leaders demonstrate their capabilities in conflict resolution management, and so by promoting fairness and team cohesion. Their focus on strategic orientation includes sustainable logistics practice, such as enhancing responsibility and community development (Fernandes et al., 2023; Kuzey et al., 2022). While historically perceived as risk-averse, women display measured risk-taking by demonstrating technical expertise and strong decision-making (Maemunah et al., 2023). However, establishing credibility remains challenging due to entrenched gender biases. In the context of promoting career equality and inclusion, women efforts are driving greater career progression for women in this demanding industry (International Transport Forum, 2021).

4.6.Research hypothesis validation for the healthcare and pharmaceuticals sector

CR is a significant driver of women's leadership. Estimate = 0.300, p = 0.030, with a confidence interval of [0.030, 0.570]. The estimate indicates that women who effectively resolve conflicts tend to perform better in leadership roles. This suggests that interpersonal skills and the ability to manage challenging situations are vital for leadership success in healthcare and pharmaceuticals sector (Adams–Harmon & Greer–Williams, 2021). Although SO has a relatively high estimate, its p-value indicates marginal significance. Estimate = 0.573, p = 0.083 (marginal significance), with a confidence interval of [-0.064, 1.209]. This implies that while strategic thinking may contribute to leadership, it may not be as consistently impactful in this sector compared to others. However, the positive estimate reflects its potential role in long-term leadership effectiveness. RT is a significant predictor of leadership, suggesting that women who take calculated risks are more likely to assume in leadership roles. Estimate = 0.634, p = 0.005, with a confidence interval of [0.188, 1.080]. The high estimate highlights the importance of confidence and decision-making under uncertainty in the healthcare and pharmaceutical industry (He et al., 2023). WC emerges as the strongest and most significant predictor of women's leadership. Estimate = 0.692, $p < 0.001$, with a confidence interval of [0.437, 0.908]. The high estimate underscores the essential role of trust and reliability in building leadership effectiveness, particularly in industries like healthcare and pharmaceuticals (Khan & Ferdoos, 2024), where credibility is a cornerstone of professional success.

Women's leadership in this sector is predominantly driven by credibility, followed by risk-taking and conflict resolution skills. While strategic orientation plays a role, its significance is less consistent, potentially due to the specific demands of the healthcare and pharmaceutical industry (Mousa et al., 2021). LEAD has a positive and significant impact on career equality, though the estimate is moderate compared to other sectors. Estimate = 0.209, p = 0.022, with a confidence interval of [0.030, 0.389]. This indicates that empowering women leaders contributes to fairer career opportunities and inclusivity, but the overall impact may be moderated by other industry-specific factors such as regulatory constraints or hierarchical structures. CE strongly enhances WLI. Estimate = 0.462, p = 0.020, with a confidence interval of [0.077, 0.908]. The estimate suggests that fair and inclusive career opportunities enable women to achieve better work-life balance. This finding highlights the importance of equality in creating environments that support women in balancing their professional and personal roles. WLI has a significant positive impact on CP. Estimate = 0.263, $p < 0.001$, with a confidence interval of [0.117, 0.409]. The estimate reflects that policies and practices that support work-life balance directly contribute to the upward

mobility of women in their careers. This is particularly important in healthcare and pharmaceuticals, where work-life balance can be a challenge due to demanding schedules and responsibilities.

Table 10:
Regression coefficients for the healthcare and pharmaceuticals sector

Regression coefficients

							95% Confidence Interval	
Group	Outcome	Predictor	Estimate	Std. Error	z-value	p	Lower	Upper
Healthcare and Pharmaceuticals	CE	LEAD	0.209	0.092	2.286	0.022	0.03	0.389
	CP	WLI	0.263	0.074	3.539	< .001	0.117	0.409
	LEAD	CR	0.3	0.138	2.175	0.03	0.03	0.57
		SO	0.573	0.325	1.763	0.038	-0.064	1.209
		RT	0.634	0.228	2.786	0.005	0.188	1.08
		WC	0.622	0.095	6.565	< .001	0.437	0.808
	WLI	CE	0.492	0.212	2.322	0.02	0.077	0.908

WC (Estimate = 0.692, $p < 0.001$) is the most significant driver of women's leadership, reflecting the importance of trust and reliability in this sector. RT (Estimate = 0.634, $p = 0.005$) and CR (Estimate = 0.300, $p = 0.030$) also contribute meaningfully to leadership development, emphasizing confidence and interpersonal skills. SO (Estimate = 0.573, $p = 0.083$) shows a positive but marginally significant impact, suggesting it may be less critical in this sector compared to others. Women leaders positively influence CE (Estimate = 0.209, $p = 0.022$), fostering inclusivity and fairness, though the impact is more moderate than in other sectors. CE strongly drives work-life inclusion (Estimate = 0.462, $p = 0.020$), enabling women to better balance their personal and professional lives. WLI significantly enhances CP (Estimate = 0.263, $p < 0.001$), highlighting the role of supportive policies and practices in enabling upward mobility for women. In the healthcare and pharmaceutical industry, credibility and risk-taking are foundational elements for leadership success. Equitable practices and work-life inclusion are critical for advancing women's careers, with the overall findings emphasizing the need for targeted strategies to address industry-specific challenges and promote gender equality. Despite being predominantly female, the healthcare sector suffers from gender disparity in leadership roles (World Health Organization, 2021). Women leaders in healthcare are adept at conflict resolution, fostering collaboration among interdisciplinary teams to deliver high-quality patient care (Khan & Ferdoos, 2024). Their strategic direction emphasizes innovation in pharmaceuticals and patient-centric healthcare delivery. Women leaders adopt a cautious approach to risk-taking, particularly in decisions affecting patient safety, but are bold in adopting emerging technologies. Credibility is earned through clinical expertise and effective team leadership. By advocating for gender equity,

women leaders improve career equality, providing more opportunities for women in research venues.

4.7.Research hypothesis validation for the real estate and property management sector

CR is a highly significant driver of women's leadership in this sector. Estimate = 0.434, $p < 0.001$, with a confidence interval of [0.361, 0.506]. The substantial estimate indicates that women, who manage conflicts and foster collaboration, are well-positioned for leadership roles. This reflects the critical role of interpersonal and problem-solving skills in navigating the dynamic real estate and property management environment. SO has a positive and significant impact on women's leadership, albeit with a relatively smaller estimate. Estimate = 0.243, $p = 0.049$, with a confidence interval of [0.001, 0.485]. This suggests that while long-term vision and planning contribute to leadership success, their influence is less pronounced compared to other factors in this sector (Jamil et al., 2024).

RT emerges as the most influential factor driving leadership, with a large and highly significant estimate. Estimate = 1.126, $p < 0.001$, with a confidence interval of [0.569, 1.684]. This highlights the importance of decision-making and self-confidence in taking calculated risks, which are essential in the high-stakes real estate and property management industry. WC is another significant predictor of leadership. Estimate = 0.678, $p < 0.001$, with a confidence interval of [0.423, 0.932]. The high estimate emphasizes the importance of trust and reliability in establishing women as effective leaders in this sector, where stakeholder trust is paramount. Women leaders in real estate and property management are predominantly shaped by their risk-taking ability and credibility, with conflict resolution and strategic orientation also contributing significantly. These findings underscore the importance of fostering decision-making confidence and maintaining a strong reputation in this industry.

LEAD has a substantial and highly significant positive effect on CE. Estimate = 1.325, $p < 0.001$, with a confidence interval of [1.199, 1.451]. The very large estimate indicates that empowering women in leadership roles leads to significant improvements in creating equitable career opportunities. This reflects the transformative impact of women leaders in promoting fairness and inclusivity within the sector (Jamil et al., 2024). CE significantly enhances WLI. Estimate = 0.417, $p = 0.009$, with a confidence interval of [0.105, 0.730]. The moderate estimate suggests that equitable career opportunities positively influence women's ability to balance personal and professional responsibilities. This relationship highlights the importance of fair workplace practices in supporting women's overall inclusion in the real estate and property management industry. WLI has a significant positive impact on CP, though the estimate is relatively small. Estimate = 0.088, $p < 0.001$, with a confidence interval of [0.053, 0.124]. This indicates that while work-life inclusion contributes to career growth, its impact may be moderated by other factors unique to this sector, such as market conditions or organizational structures.

Table 11:

Regression coefficients for the real estate and property management sector

Regression coefficients

	95% Confidence Interval

Group	Outcome	Predictor	Estimate	Std. Error	z-value	p	Lower	Upper
Real Estate and Property Management	CE	LEAD	1.325	0.064	20.642	< .001	1.199	1.451
	CP	WLI	0.088	0.018	4.877	< .001	0.053	0.124
	LEAD	CR	0.434	0.037	11.767	< .001	0.361	0.506
		SO	0.243	0.123	1.971	0.049	0.001	0.485
		RT	1.126	0.284	3.961	< .001	0.569	1.684
		WC	0.678	0.13	5.22	< .001	0.423	0.932
	WLI	CE	0.417	0.159	2.621	0.009	0.105	0.73

RT (Estimate = 1.126, $p < 0.001$) is the most critical factor, highlighting the importance of confidence and decision-making in uncertain and high-stakes scenarios. WC (Estimate = 0.678, $p < 0.001$) and CR (Estimate = 0.434, $p < 0.001$) are also significant, emphasizing trust and interpersonal skills. SO (Estimate = 0.243, $p = 0.049$) plays a role, though its impact is less pronounced compared to other factors. LEAD significantly improve CE (Estimate = 1.325, $p < 0.001$), driving transformative changes in inclusivity and fairness within the sector. CE positively influences WLI (Estimate = 0.417, $p = 0.009$), enabling women to balance their roles effectively. WLI has a significant but modest effect on CP (Estimate = 0.088, $p < 0.001$), suggesting that other factors may also play a key role in driving career growth (Kossek & Lee, 2021). The real estate sector presents unique challenges for women leaders, who face gender discrimination and limited access to high-profile projects (Fernandez & Clark, 2023).

Promoting gender diversity through equitable initiatives and providing opportunities for professional development are strategies to address these issues. In real estate and property management, leadership attributes like risk-taking and credibility are vital for career equality and progression. Organizations should prioritize developing these traits and implementing equitable policies to foster inclusion and enable career advancement for women in this competitive sector. Credibility is established through successful negotiations and integrity in transactions. Women leaders advocate for career equality by promoting equitable pay and leadership representation. This paves the way for work-life inclusion through initiatives like flexible schedules and parental leave policies, which in turn foster career progression by retaining and advancing women in senior roles (Paolone et al., 2024).

4.8.Research hypothesis validation for the hospitality and tourism sector

CR is a significant contributor to women's leadership. Estimate = 0.157, $p = 0.024$, with a confidence interval of [0.020, 0.293]. The estimate indicates that women who effectively resolve conflicts are better equipped to lead in this dynamic industry, where customer satisfaction and team harmony are critical. SO is another significant predictor, suggesting that long-term vision and planning play a critical role in leadership success. Estimate = 0.150, $p = 0.025$, with a confidence interval of [0.019, 0.281]. RT has a significant positive influence on women's leadership. Estimate = 0.149, $p = 0.037$, with a confidence interval of [0.009, 0.289]. The ability to take calculated risks is essential for driving innovation and adapting to changing market conditions in the hospitality sector (Hasanat et al., 2021). For Hasanat et al., (2021), women's leadership in tourism focuses on available opportunities to demonstrate their skills. For Archer and

Kam (2022), women, in the hospitality industry, are well-represented in lower-level roles but face significant barriers to executive leadership. WC emerges as the strongest predictor of leadership in this sector. Estimate = 0.275, p = 0.024, with a confidence interval of [0.037, 0.514]. The high estimate highlights the importance of trustworthiness and reliability in establishing effective leadership (Dashper, 2020). Women leaders in the hospitality and tourism industry benefit significantly from credibility, strategic orientation, conflict resolution skills, and risk-taking. These traits help them effectively manage teams, make decisions, and adapt to a fast-paced and customer-focused environment.

LEAD has a significant positive effect on CE. Estimate = 0.242, p < 0.001, with a confidence interval of [0.100, 0.385]. This finding indicates that empowering women in leadership roles fosters equitable career opportunities and helps break down systemic barriers in this industry. CE significantly enhances WLI. Estimate = 0.223, p = 0.001, with a confidence interval of [0.087, 0.360]. This relationship suggests that fair and inclusive career opportunities enable women to achieve a better balance between their personal and professional responsibilities (Dashper, 2020). WLI has a strong and significant positive impact on CP. Estimate = 0.597, p = 0.002, with a confidence interval of [0.220, 0.973]. This finding underscores the importance of supportive workplace policies and practices that allow women to balance their roles effectively, enabling them to advance in their careers.

Table 12:

Regression coefficients for the hospitality and tourism sector

Regression coefficients

							95% Confidence Interval	
Group	Outcome	Predictor	Estimate	Std. Error	z-value	p	Lower	Upper
Hospitality and Tourism	CE	LEAD	0.242	0.073	3.328	< .001	0.1	0.385
	CP	WLI	0.597	0.192	3.108	0.002	0.22	0.973
	LEAD	CR	0.157	0.07	2.249	0.024	0.02	0.293
		SO	0.15	0.067	2.248	0.025	0.019	0.281
		RT	0.149	0.072	2.086	0.037	0.009	0.289
		WC	0.275	0.122	2.26	0.024	0.037	0.514
	WLI	CE	0.223	0.07	3.204	0.001	0.087	0.36

WC (Estimate = 0.275, p = 0.024) is the most significant driver of women's leadership, highlighting the importance of trust and reliability. CR (Estimate = 0.157, p = 0.024), SO (Estimate = 0.150, p = 0.025), and RT (Estimate = 0.149, p = 0.037) also play critical roles in developing effective leaders. Women leaders significantly improve CE (Estimate = 0.242, p < 0.001), fostering inclusivity and fairness within the industry. CE positively impacts WLI (Estimate = 0.223, p = 0.001), enabling women to balance their roles and responsibilities effectively. WLI strongly drives

career progression (Estimate = 0.597, p = 0.002), highlighting the role of supportive policies in advancing women's careers.

The hospitality and tourism industry requires leaders who excel in interpersonal, strategic, and decision-making skills. By promoting women's leadership and fostering equitable policies, organizations can create a more inclusive and progressive workplace that supports career growth for women. Women leaders in this sector prioritize guest experience innovations and supporting contentious reputation concerning the adequacy of support and resources allocated for the industry (Manfreda et al., 2024). Credibility is achieved through expertise in service management and consistent customer satisfaction (Dashper, 2020). Women leaders push for career equality by advocating for equal representation in managerial roles and addressing gender biases. This leads to improved work-life inclusion, especially through flexible scheduling for shift workers (Calinaud et al., 2021). As a result, more women are able to achieve career progression and assume leadership positions in this sector (Terjesen et al., 2009).

4.9.Research hypothesis validation for the construction and civil engineering sector

CR shows no meaningful contribution to women's leadership. Estimate = -0.002, p = 0.985, with a confidence interval of [-0.202, 0.198].The estimate is nearly zero, and the p-value indicates no statistical significance, suggesting that this factor may not play a role in the leadership outcomes within this group. While the estimate is positive, it is not statistically significant. Estimate = 0.175, p = 0.367, with a confidence interval of [-0.206, 0.557].This indicates that SO does not have a significant impact on leadership development in this sector. RT is also not a significant predictor of women's leadership. Estimate = 0.070, p = 0.552, with a confidence interval of [-0.161, 0.301]. The lack of significance suggests that decision-making confidence or risk tolerance may not be as critical for leadership in this context. WC does not show any significant relationship with women's leadership. Estimate = -0.002, p = 0.985, with a confidence interval of [-0.178, 0.174]. The near-zero estimate and lack of statistical significance indicate that credibility is not a key factor in this sector's leadership outcomes.

None of the predictors significantly influence women's leadership in the construction and civil engineering group, which may indicate unique contextual challenges or those other unmeasured factors are at play in shaping leadership dynamics. The construction industry is one of the most gender-imbalanced sectors, with women representing less than 10% of the workforce in many regions (Lekchiri & Kamm, 2020). LEAD has no significant effect on career equality in this sector. Estimate = -0.084, p = 0.757, with a confidence interval of [-0.617, 0.449]. The negative estimate and lack of significance suggest that empowering women in leadership roles may not directly translate to improved CE within this group, potentially due to structural barriers or entrenched biases. CE does not significantly enhance WLI. Estimate = 0.046, p = 0.500, with a confidence interval of [-0.088, 0.180]. The lack of significance indicates that fair career opportunities may not directly contribute to creating a better balance between professional and personal responsibilities in this industry. WLI has no significant impact on CP in this sector. Estimate = -0.002, p = 0.993, with a confidence interval of [-0.380, 0.377]. The near-zero estimate and lack of statistical significance suggest that other factors, such as industry-specific norms or external conditions, may play a more substantial role in shaping career progression for women.

Table 13:
Regression coefficients for the construction and civil engineering sector
Regression coefficients

							95% Confidence Interval	
Group	Outcome	Predictor	Estimate	Std. Error	z-value	p	Lower	Upper
Construction and Civil Engineering	CE	LEAD	-0.084	0.272	-0.309	0.757	-0.617	0.449
	CP	WLI	-0.002	0.193	-0.009	0.993	-0.38	0.377
	LEAD	CR	-0.002	0.102	-0.019	0.985	-0.202	0.198
		SO	0.175	0.194	0.902	0.367	-0.206	0.557
		RT	0.07	0.118	0.595	0.552	-0.161	0.301
		WC	-0.002	0.09	-0.019	0.985	-0.178	0.174
	WLI	CE	0.046	0.068	0.674	0.5	-0.088	0.18

In the construction and civil engineering industry, the results indicate an absence of statistically significant relationships among the examined predictors and outcomes. None of the predictors, including CR, SO, RT, or WC, have a significant impact on LEAD in this sector. Women leadership does not significantly affect CE (Estimate = -0.084, p = 0.757). This highlights potential structural barriers that prevent leadership representation from translating into equitable opportunities. CE shows no significant relationship with WLI (Estimate = 0.046, p = 0.500), suggesting that fair opportunities alone may not address work-life balance challenges in this sector. WLI does not significantly drive CP (Estimate = -0.002, p = 0.993), reflecting the need for additional interventions to support women's career growth. The lack of significant findings underscores the challenges faced by women in the construction and civil engineering sector. It suggests that structural and systemic issues may limit the effectiveness of individual-level factors in driving leadership, equality, inclusion, and career progression. Addressing these issues will require targeted efforts to create a more inclusive and supportive environment.

This sector exhibits significant gender disparities, with women facing substantial obstacles in attaining leadership positions. Challenges include workplace culture, gender biases, and limited support for career development. Research indicates that creating an inclusive environment and implementing supportive policies are crucial for enhancing women's leadership opportunities in construction.

5. Conclusion

Across sectors, women leaders play a pivotal role in advancing career equality, work-life inclusion, and career progression through their conflict resolution skills, strategic direction, and risk-taking approaches. While the seven research hypotheses were supported in most sectors, exceptions were observed in the construction and civil engineering sector, indicating the need for sector-specific strategies to address unique challenges and systemic barriers. Empowering women leaders in these contexts remains essential for promoting sustainable and inclusive growth across diverse industries. Women leaders excel in conflict resolution by emphasizing collaboration, empathy, and the alignment of stakeholder interests. This approach reduces agency costs and fosters a culture of trust, contributing to organizational efficiency. Furthermore, their focus on knowledge-sharing and inclusivity drives innovative strategies and long-term sustainability. Aligned with the KBV, their ability to integrate diverse perspectives showcases knowledge as a key resource for competitive advantage. In terms of risk-taking, women leaders adopt calculated and collaborative approaches, minimizing uncertainties, reducing transaction costs, and fostering stakeholder alignment. This strategic approach reflects principles of TCT and highlights women leaders' capability to balance risk and innovation effectively. Credibility, rooted in transformational leadership and consistent performance, enables women leaders to navigate biases and challenge stereotypes. Their actions, supported by Identity Theory, reshape group norms and reinforce cohesive, inclusive workplace cultures. This credibility strengthens their influence and enhances organizational trust. Additionally, women leaders advocate for equitable practices and inclusive policies that empower employees to balance personal and professional responsibilities. These efforts align with the SET, demonstrating how inclusivity initiatives foster loyalty, trust, and engagement, ultimately creating pathways for career progression. These interconnected findings, supported by theoretical insights, underscore how women leaders drive equity, efficiency, and organizational success. By addressing sector-specific challenges and reinforcing women's leadership across industries, organizations can unlock sustainable growth and foster inclusive workplace environments.

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