

Influence of Cross-Cultural Leadership on Employee Engagement and Job Satisfaction

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Abstract: Cross-cultural leadership is crucial in today's multicultural workplaces to foster positive employee attitudes and improve organisational effectiveness. But there is still limited empirical evidence on its impact on staff engagement and job satisfaction, especially in new economic countries like Malaysia. This study explores the impact of cross-cultural leadership on employee engagement and job satisfaction and further explores the mediating role of employee engagement. A quantitative cross sectional survey was undertaken based on the Job Demands–Resources (JD-R) Theory and Social Exchange Theory with 240 employees from Malaysian organisations. A complementary methodological approach (Partial Least Squares Structural Equation Modelling or PLS-SEM and Fuzzy-set Qualitative Comparative Analysis or fsQCA) was used to analyse the data. The PLS-SEM results indicate that the cross-cultural leadership has a significant positive impact on employee engagement and job satisfaction. Employee engagement significantly positively influences job satisfaction, and partially mediates the relationships between cross-cultural leadership and job satisfaction. fsQCA results also reveal that employee engagement is a necessary condition for high job satisfaction and that there are multiple combinations of the cross-cultural leadership and employee engagement that can result in high job satisfaction. These results suggest that culturally competent leadership is complementary with employee engagement in supporting job satisfaction in multicultural work settings. The study makes a contribution to the literature on cross-cultural leadership, in that it offers empirical evidence from Malaysia and combines symmetric and asymmetric analytical perspectives in explaining employee attitudes in culturally diverse organisational contexts. The results are also relevant for organisations that want to build leadership competencies and enhance job satisfaction and employee engagement through effective cross-cultural management.

Keywords: Cross-cultural leadership; Employee engagement; Job satisfaction; PLS-SEM; fsQCA

1. Introduction

Diversity in terms of the makeup of the workforce is an unavoidable element in today's business environment where organisations are global and cross-national and cultural. With people from diverse cultural, ethnic and linguistic backgrounds working together to help achieve organisational goals, effective leadership is essential to promote inclusion, collaboration and positive employee outcomes. In this context, cross-cultural leadership has become an important leadership skill, which allows a leader to grasp the cultural differences, adjust his leadership styles and lead his team members well. Numerous prior studies have proven that the effects of leadership are strong on employee attitudes, behaviours, and outcomes in the organization. For example, participative leadership has been identified to boost employee job satisfaction by improving their levels of work engagement (Chan, 2019), and transformational leadership contributes to employee engagement by empowering them psychologically (Farzana & Charoensukmongkol, 2024). Similarly, ethical and authentic leadership has been found to foster employee well-being, work engagement and organisational performance (Sarwar et al., 2020; Wirawan et al., 2020). Overall, these results point to

the fact that leadership is a key organisational asset for developing motivated and happy employees.

As employees who are engaged are more committed, enthusiastic, productive, and willing to go the extra mile, this is one of the key metrics of organisational success. Providing support to employees is an important job resource that can help to motivate and engage them, as suggested by the Job Demands–Resources (JD-R) Theory. This proposition has been supported by empirical evidence in different organisations and cultures. Findings of Farndale and Murrer (2015) indicated that, organisational job resources are a significant factor that enhances employee engagement in cross-national contexts and He et al. (2022) showed that leadership behaviors increase employee engagement by providing them with valuable organisational resources, in the context of Chinese expatriates. Likewise, Farzana and Charoensukmongkol (2024) revealed that the effect of transformational leadership on employee engagement is significant in both Bangladesh and Thailand, underscoring the role of transformational leadership in diverse cultures. However, relatively limited research has been done to gain insight into whether or not cross-cultural leadership can improve employee engagement in multicultural workplaces.

Job satisfaction is also an important result of effective leadership as happy employees are more likely to be loyal, productive, and stay at their organisations. Past studies have demonstrated that leadership behaviours have a significant influence on employees' work environment and job satisfaction perceptions. Chan (2019) proved that the participative leadership style positively influences job satisfaction through employee engagement, and Prince (2026) highlighted the importance of relational leadership for employees' job satisfaction by considering the culture of workplace relationships. Furthermore, Tsai and Qiao (2023) revealed that congruence between employees' expectations and expatriate supervisors' leadership behaviours is an important factor to enhance employee satisfaction in cross-cultural work settings. Likewise, Huang et al. (2024) found there was a relationship between leadership organisational variables and teacher job satisfaction in both collectivist and individualist culture. These findings highlight the need to have culturally responsive leadership to create positive attitudes among employees. However, there is a dearth of empirical studies that focus specifically on the cross-cultural leadership and job satisfaction relationship in particular in multicultural developing economies.

Malaysia provides a suitable context to study cross-cultural leadership as it has one of the most culturally diverse workforce in Southeast Asia with the presence of Malay, Chinese, Indians, indigenous groups, and more and more foreign employees. This diversity can be both a blessing and a curse for organisational leaders who need to effectively deal with cultural differences while keeping employees motivated and harmonious in the workplace. Though there have been some studies of leadership in cross-cultural context in countries like Bangladesh and Thailand (Farzana & Charoensukmongkol, 2024), China (He et al., 2022; Tsai & Qiao, 2023), Japan and the United States (Yamaguchi, 2013), and across other international contexts (Farndale & Murrer, 2015; Prince, 2026), there were relatively limited empirical studies on cross-cultural leadership in Malaysian organisations. Additionally, Marpaung et al., (2023) revealed that cross-cultural leadership is crucial in turning cultural diversity management into better employee performance and needs more studies in multicultural organizational contexts.

Given this context, the current study explores the effects of cross-cultural leadership on employee engagement and job satisfaction of employees in Malaysia and examines the mediation of employee engagement. To account for both the motivational and relational pathways by which cross-cultural leadership impacts employee attitudes, the Job Demands–Resources Theory and Social Exchange Theory are combined. The study takes a complementary analytical approach methodologically by applying the Partial Least Squares Structural Equation Modelling (PLS-SEM) and the Fuzzy-set Qualitative Comparative Analysis (fsQCA), to gain both symmetric and asymmetric views of the relationships proposed in the model. By doing so, the study supports the existing literature on leadership and organisational behaviour by broadening existing evidence of cross-cultural leadership, providing

empirical evidence from Malaysia's multicultural workplace, and highlighting the importance of culturally competent leadership in order to enhance employee's work engagement and job satisfaction in increasingly diverse organisational settings (Chan, 2019; Marpaung et al., 2023; Prince, 2026).

2. Literature Review

Leadership has always been recognised as a key factor in employee attitudes and behaviours, especially in diverse organisations. In a world that is becoming increasingly global, leaders are expected to manage cultural differences, actively build inclusive cultures and develop spaces for collaboration between different groups of employees. The concept of cross-cultural leadership is becoming an important approach to leadership in multicultural organisations, which is defined by cultural sensitivity, adaptability and inclusive decision making. Past research has demonstrated that leadership schemas that facilitate involvement, ethical behaviour and interpersonal relationships have positive effects on the employee's results, including engagement, satisfaction and organisational commitment. For instance, participative leadership fosters job satisfaction among employees by improving their work engagement (Chan, 2019), and authentic, ethical, and transformational leadership also positively correlates with increased work engagement, psychological well-being, and positive outcomes (Sarwar et al., 2020; Wirawan et al., 2020; Farzana & Charoensukmongkol, 2024). The results point to the fact that leadership actions which foster trust, empowerment, and inclusion could be especially important in multicultural work settings.

A strong correlation has been identified between employee engagement and organisational effectiveness, and employee engagement has been widely seen as a key mechanism by which leadership can make a difference to organisational effectiveness. Based on the "Job Demands–Resources (JD-R)" theory, leadership is one of the vital job resources that would provide motivation, energy, and commitment of the employees in their work. The relationship is strong in different national contexts as Farndale and Murrer (2015) found that supportive job resources significantly positively affected employee engagement. Similarly, He et al. (2022) found that leadership behaviours enhance work engagement by providing valuable psychological and organisational resources for employees working in cross-cultural settings. Besides, the psychological empowerment that results from transformational leadership is a factor that positively influences employee engagement (Farzana & Charoensukmongkol, 2024), and job satisfaction in turn is a determinant that has a positive effect on employee engagement (Wirawan et al., 2020). The studies all point to the fact that leadership that's able to address employees' psychological and contextual needs is pivotal to fostering an engaged workforce.

Job satisfaction is one of the most widely researched employee outcomes, due to its positive correlation with employee productivity, organisational commitment, employee turnover and employee well-being. Leadership behaviours have been consistently linked to employees' perceptions of their work experience in the past. A work engagement has been shown to be an important mechanism in the relationship between participative leadership and job satisfaction, as shown by Chan (2019). Cultural studies also show that there are cross-cultural differences in the perceptions of leadership effectiveness and job satisfaction among employees. Tsai and Qiao (2023) found that employee satisfaction of Chinese employees is significantly high when there is alignment between their expectations of their supervisor's leadership behaviours and the actual behaviours of the supervisor. Similarly, Huang et al. (2024) revealed that leadership-related organisational factors have varying impacts on teacher job satisfaction in different cultural contexts: collectivistic and individualistic culture, and Prince (2026) stated that relational leadership positively affects employee satisfaction by acknowledging the cultural aspects of relationships in the work place. These results highlight the need for culturally responsive leadership in improving job satisfaction in different organizational contexts.

The study of cross-cultural leadership has recently become more popular and has received more scholarly focus, and organisations are increasingly comprised of culturally diverse teams. Cross-cultural leadership is not about a specific style of leadership, it is more about the leadership ability to communicate across cultures, manage diversity, foster intercultural trust and collaborate inclusively. The study by Marpaung et al., (2023) showed that cross-cultural leadership is a significant mediator of the relationship between cultural diversity management and employee work performance, which indicates that leadership is an important pathway by which cultural diversity management contributes to the positive outcomes of the organisation. In the same way, Yamaguchi (2013) pointed out the significance of cultural settings to understand the relationships of the organisational social capital, autonomy, job satisfaction and organisational commitment in U.S. and Japan. Based on the findings of these studies, it is suggested that cultural understanding and adaptive behaviours are crucial in determining leadership effectiveness, and it is important to explore the issues of cross-cultural leadership in the context of a multicultural society like Malaysia in which employees from different ethnic, cultural and linguistic backgrounds are working together in increasingly globalised organisations.

While some studies have already shown significant relationships between leadership, employee engagement and job satisfaction, there are still several gaps in the research. Existing research has focused on types of leadership within a traditional context, particularly on the concepts of participative leadership, transformational leadership, authentic leadership, ethical leadership or paternalistic leadership, while the specific aspect of cross-cultural leadership has received relatively little attention. In addition, a number of studies have focused on the assessment of employee engagement or job satisfaction without studying their sequential relationships in a coherent theoretical framework. There is further limited empirical evidence based on a multicultural setting in the Southeast Asian context, especially from Malaysia, despite its multicultural workforce. The current study aims to address the gaps by investigating the direct effect of cross-cultural leadership on employee engagement and job satisfaction of Malaysian employees, and the mediating role of employee engagement between cross-cultural leadership and employee outcomes (job satisfaction). This study has extended the leadership research field to multicultural organisations in Malaysia, and will advance the existing body of literature on cross-cultural leadership to provide practical implications for organisations which wish to enhance their employee engagement and job satisfaction by employing culturally effective leadership practices.

Although there has been a wealth of research on leadership and employee outcomes, there are still several areas of importance that have not been covered. First, previous research has mainly focused on conventional leadership styles such as participative leadership (Chan, 2019), authentic leadership (Wirawan et al., 2020), transformational leadership (Farzana & Charoensukmongkol, 2024), ethical leadership (Sarwar et al., 2020), paternalistic leadership (He et al., 2022), and relational leadership (Prince, 2026). In comparison, empirical studies that concentrate specifically on cross-cultural leadership are still few, given the growing number of culturally diverse workforces due to globalization and international business expansion. Previous studies have focused on studying expatriate leadership behaviors (Tsai & Qiao, 2023), comparisons between different countries (Huang et al., 2024; Yamaguchi, 2013), or the intervening effect of cross-cultural leadership in diversity management (Marpaung et al., 2023), but not in examining the effect of cross-cultural leadership as a primary antecedent of employee attitudes.

Second, while employee engagement and job satisfaction are two of the most commonly studied employee outcomes, previous research has typically studied the two in isolation or only focused on a single mediator. For example, Chan (2019) showed that work engagement lies between participative leadership and job satisfaction; while Wirawan et al. (2020) showed that job satisfaction lies between authentic leadership and work engagement. In a similar way, Farzana and Charoensukmongkol (2024) proposed that psychological empowerment is a mediator between transformational leadership and

employee engagement, and He et al. (2022) used Job Demands–Resources perspective to elucidate work engagement of expatriates. Thus, there is very little empirical research available that integrates the cross-cultural study of leadership, employee engagement, and job satisfaction in one study, allowing for the simultaneous direct and indirect relationships.

Third, evidence from multicultural Southeast Asian countries is limited. While there have been some studies in Bangladesh (Farzana & Charoensukmongkol, 2024), Thailand (He et al., 2022; Tsai & Qiao, 2023), Japan and the United States (Yamaguchi, 2013), empirical research on leadership in Malaysia has still been limited. Given Malaysia's multicultural workforce, employees from all ethnic, cultural, and religious backgrounds, this study will shed light on the effect of cross-cultural leadership on employee attitudes. Therefore, the present study aims at examining the direct effect of cross-cultural leadership on employee engagement and job satisfaction among Malaysian employees and at the same time, the role of employee engagement as a mediator between cross-cultural leadership and job satisfaction. The study advances the body of knowledge on cross-cultural leadership theory and provides novel empirical insights from a multicultural emerging economy.

Cross cultural leadership fosters diversity in communication, respect for others, and effective teamwork among employees from different cultural backgrounds. Leaders who are culturally sensitive and adaptable will provide positive work environments that will motivate and increase employees' commitment. Applying participative, transformational, authentic and paternalistic leadership has consistently proven to be beneficial for employee engagement (Chan, 2019; Farzana & Charoensukmongkol, 2024; He et al., 2022; Wirawan et al., 2020). The cross-cultural leadership is also expected to increase employees' engagement, because cross-cultural leadership also gives psychological and social resources to the employees.

H1: The leadership effect on employee engagement is good and significant in a cross cultural context.

A good cross cultural leader also encourages trust, fairness and respect for others in the work place, thereby enhancing employees' overall perception of their work experiences. Previous studies have shown that leadership behaviours are positively related to job satisfaction in different organizations (Chan, 2019; Prince, 2026; Tsai & Qiao, 2023; Wang & Derakhshan, 2025). If leaders are able to manage cultural diversity effectively, they are likely to help ensure a non-conflictual relationship between people in the workplace, and a harmonious environment in which people will be more satisfied with their jobs.

H2: Job satisfaction is enhanced when employing cross-cultural leadership.

Employee engagement is a psychological investment, enthusiasm and commitment of employees towards their work. Employees who are highly engaged are likely to be more satisfied, more committed to the organisation, and more positive about their work. There is a consistent positive correlation between engagement and job satisfaction from previous studies (Chan, 2019; Farndale & Murrer, 2015; Wirawan et al., 2020). Thus, it is hypothesized that higher levels of job satisfaction occur among engaged employees.

H3: Employee engagement positively affects job satisfaction.

The Job Demands – Resources theory proposes that leadership is a significant resource for the organisation and can help boost employee engagement as a result of which, job satisfaction could be a better outcome of the workplace. Through mediation analysis, Chan (2019) proved that work engagement plays a role between participative leadership and job satisfaction, which provided evidence that participative leadership affects job satisfaction indirectly by means of work engagement. As cross-cultural leadership has a positive impact on inclusion, cultural understanding and employee involvement, it is expected that this will indirectly have a positive impact on job satisfaction.

H4: Employee engagement is the mediating variable between cross-cultural leadership and job satisfaction.

Figure 1 shows the conceptual model that was developed to explore the impact of cross-cultural leadership on the employee engagement and job satisfaction of employees working in Malaysian organisations. The framework is mainly supported by the Job Demands – Resources (JD-R) Theory (Bakker & Demerouti, 2007) which suggests that organisational resources such as supportive leadership positively influence employees' motivation, work engagement, and positive work outcomes. Cross cultural leadership is a useful tool for work in a multicultural environment as it increases cultural sensitivity, inclusive communication, trust and collaboration among employees of various cultural backgrounds. These leadership behaviors are expected to enhance employees' psychological commitment to their jobs, which will lead to higher employee engagement (H1). In addition, it is argued that leaders who successfully manage cultural diversity will establish a positive and respectful climate that will directly influence employees' perceptions of their work, which in turn will lead to an increase in job satisfaction (H2). As in the JD-R model, the proposed model further suggests that employee engagement positively impacts job satisfaction (H3), since engaged employees are often more energetic, loyal, and satisfied with their work experiences. The proposed framework is also based on Social Exchange Theory (SET) (Blau, 1964) which suggests that positive relationship between leaders and employees can be developed through mutually beneficial exchanges of trust, support and commitment. Leaders who model fairness, respect for cultural diversity, and being a role model for employee well-being will be influential in eliciting positive counterfeit behaviors from their employees, such as attitudes toward the jobs and higher levels of engagement. Based on this, the model suggests that job satisfaction is mediated by employee engagement between the cross-cultural leadership and job satisfaction (H4). Culturally competent leadership is, therefore, expected to improve employees' engagement which in turn boosts employees' job satisfaction. The conceptual framework was derived from the combination of JD-R Theory and Social Exchange Theory, which present a holistic overview of the motivational and relational mechanisms that influence employee attitudes in an organisation with a multi-cultural environment in Malaysia.

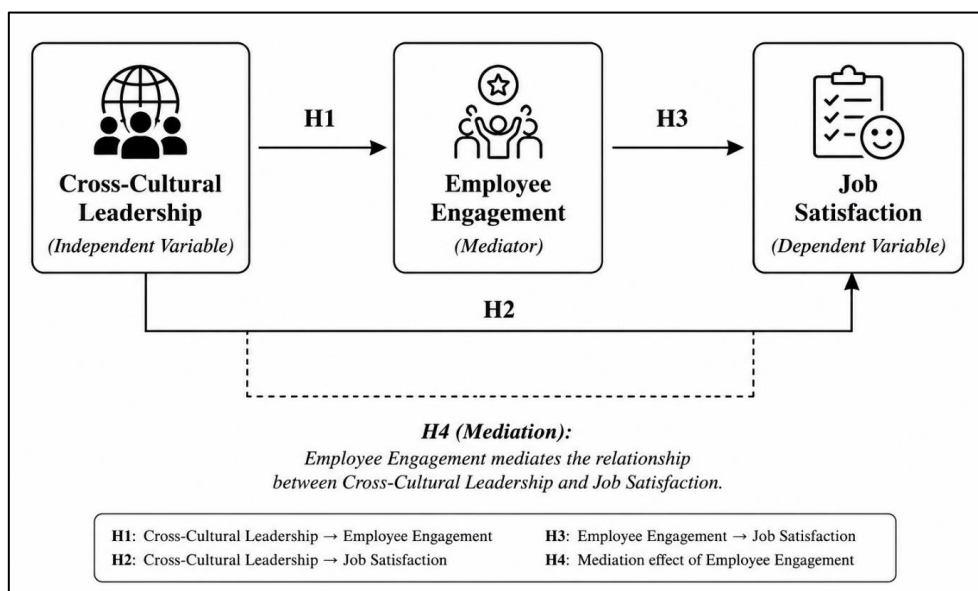


Figure 1. Conceptual framework

3. Methodology

3.1. Data and Sample

This study took a quantitative, cross-sectional survey design approach to investigate how cross cultural leadership affects employee engagement and job satisfaction of employees in Malaysia. The target population of this study was full-time employees in both

multinational corporations (MNCs) and domestic organisations in culturally diverse settings. The Malaysian context is an appropriate setting for the study because the country's workforce comprises of a multiethnic population, including Malays, Chinese, Indians, and expatriates, where leadership with a cross-cultural dimension becomes a crucial factor in the attitudes of employees and workplace outcomes.

Structured Self Administered questionnaire was used to collect the data through online and face to face method. A purposive sampling non-probability method was used to ensure that the respondents had adequate experiences in multicultural organisational settings. All respondents were briefed on the study's aims before engaging in the study and confidentiality and anonymity were ensured. Following screening, consistency and completeness, 240 questionnaires were retained for analysis. The minimum sample size is suitable for the analysis of complex predictive models using PLS-SEM when the sample size is relatively small, as recommended by Hair et al. (2022).

3.2. Measurement of Variables

The instruments used on all constructs were validated and adapted from previously published articles to guarantee the content validity and reliability. Some minor wording changes for clarity and suitability to the Malaysian organisation context have been made without altering the meaning of each item. The responses were on a five-point Likert scale, where 1 = Strongly Disagree and 5 = Strongly Agree.

The items used to measure the cross-cultural leadership abilities of the leaders were adapted from Marpaung et al. (2023) and focused on four aspects of cross-cultural leadership: communication across cultures, cultural sensitivity, inclusiveness, and culturally diverse teams. The employee engagement measure was based on the validated employee engagement items from Chan (2019), Farndale and Murrer (2015), and He et al. (2022), which included vigour, dedication, and absorption. To determine job satisfaction, items adapted from Chan (2019), Tsai and Qiao (2023), and Prince (2026) were used with the employees, which included their overall satisfaction with the job, work environment, and leadership. The items measured were chosen based on their suitability for measuring employees' attitudes in multicultural workplace contexts as well as their well established validity in previous leadership and organisational behaviour studies.

3.3. Analytical Approach

The study used a complementary analytical approach using the Partial Least Squares Structural Equation Modelling (PLS-SEM) and Fuzzy-set Qualitative Comparative Analysis (fsQCA). This arrangement offers a symmetric and asymmetric view of the relationships between the study variables, which increases reliability and explanatory power of the results.

To assess both the measurement model and the structural model, PLS-SEM was employed, using SmartPLS 4. PLS-SEM with SmartPLS 4 was used to assess both the measurement model and the structural model. Indicator reliability, internal consistency reliability (Cronbach's alpha and composite reliability (CR)), convergent validity (average variance extracted (AVE)), and discriminant validity (heterotrait-monotrait ratio (HTMT)) were used in the measurement model assessment. After satisfactory measure properties, path coefficients were analyzed, followed by bootstrapping of 5,000 resampling, coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2) and standardized root mean square residual (SRMR). To test the mediation effect, bootstrapping was used to estimate indirect effects and confidence interval.

In addition to the net-effect analysis by using PLS-SEM, the alternative configurations of causal conditions associated with high job satisfaction were identified by using fsQCA 4.1. Whereas regression-based methods rely on the assumption of linear and symmetric relationships, fsQCA is able to identify the fact that several sets of conditions can lead to the same result (equifinality). In compliance with the standard procedure in the field of fsQCA, the latent variable scores resulting from the PLS-SEM measurement model were transformed into fuzzy-set membership scores by applying the direct calibration

method. A truth table was then built and sufficient configurations for high job satisfaction were produced using consistency and coverage thresholds. By combining the strengths of PLS-SEM and fsQCA, this study is able to not only capture the independent net effects of cross-cultural leadership and employee engagement but will also capture multiple causal pathways through which these two factors can influence job satisfaction of employees in Malaysian multicultural organisations. Figure 2 shows the methodological flow.

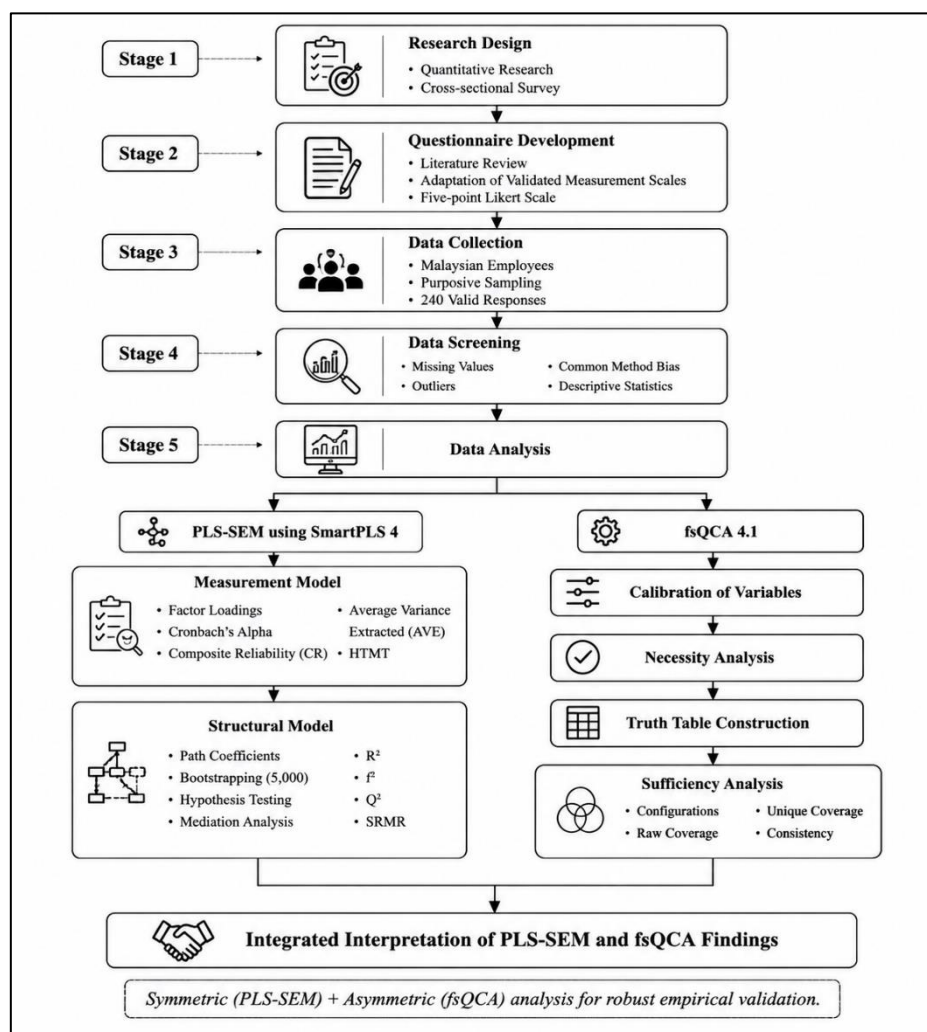


Figure 2. Methodological flow

4. Results and Discussions

4.1. Demographic Profile of Respondents Information

Table 1 shows the demographic of the 240 respondents used in this study. There was a fairly even split between male (54.6%) and female (45.4%) respondents. Most respondents were in the early to mid-career stages as most (43.3%) were in the age group 31–40, followed by 21–30 (31.7%). Ethnically, the largest group was Malay (57.9%), followed by Chinese (21.3%), Indian (15.4%) and other ethnic groups (5.4%) which represents the multicultural nature of the workforce in Malaysia. In terms of education, over half of the participants had a Bachelor's degree (55.0%), and 26.3% had a Master's degree, resulting in a well-educated sample. Moreover, 59.2% of the respondents worked in multinational organizations while 40.8% worked in local organizations which gives a proper setting to study about cross-cultural leadership. The majority of respondents held executive (42.1%) and senior executive (32.5%) roles, with the highest number holding three to five years tenure in the organisation (33.8%). The overall demographic profile shows that the sample

is reflective of employees with various organisational and cultural backgrounds, which is appropriate for the study aimed at exploring the relationships between cross-cultural leadership, employee engagement and job satisfaction in the Malaysian context.

Table 1. Demographic Profile of Respondents (N = 240)

Variable	Category	Frequency	Percentage (%)
Gender	Male	131	54.6
	Female	109	45.4
Age (Years)	21–30	76	31.7
	31–40	104	43.3
	41–50	46	19.2
	Above 50	14	5.8
Ethnicity	Malay	139	57.9
	Chinese	51	21.3
	Indian	37	15.4
	Others	13	5.4
Education	Diploma	29	12.1
	Bachelor's Degree	132	55.0
	Master's Degree	63	26.3
	Doctorate	16	6.6
Organization Type	Local Company	98	40.8
	Multinational Company	142	59.2
Job Position	Executive	101	42.1
	Senior Executive	78	32.5
	Manager	43	17.9
	Senior Manager & Above	18	7.5
Organizational Tenure	<3 Years	62	25.8
	3–5 Years	81	33.8
	6–10 Years	63	26.3
	>10 Years	34	14.2

4.2. Measurement Model Assessment

Table 2 shows the outcomes of the measurement model assessment, which includes indicator reliability, internal consistency reliability, and convergent validity. The factor loadings of all the measurement items ranged from 0.824 to 0.934, which is greater than the suggested threshold of 0.70, indicating the reliability of indicators. Additionally, the constructs exhibited high internal consistency scores with all Cronbach's $\alpha \geq 0.895$, $\rho_A \geq 0.897$ and $CR \geq 0.927$, values above the recommended thresholds of 0.70. In addition, the average variance extracted (AVE) ranged from 0.760 to 0.792, which was above the benchmark of 0.50, and thus revealed adequate convergent validity. Job satisfaction had the highest reliability ($\alpha = 0.912$; $CR = 0.938$), and cross-cultural leadership had the next highest reliability ($\alpha = 0.906$; $CR = 0.934$), while employee engagement had the lowest reliability ($\alpha = 0.895$; $CR = 0.927$). All together, the results indicate that the measurement model is reliably and convergently valid for the use of the constructs for the subsequent analysis of the structural model.

Table 2. Measurement Model Assessment

Construct	Item	Loading	Cronbach's α	ρ_A	CR	AVE
Cross-Cultural Leadership	CCL1	0.842	0.906	0.909	0.934	0.779
	CCL2	0.869				
	CCL3	0.824				
	CCL4	0.887				

Employee Engagement	CCL5	0.934				
	EE1	0.831				
	EE2	0.874				
	EE3	0.896	0.895	0.897	0.927	0.760
	EE4	0.891				
Job Satisfaction	EE5	0.860				
	JS1	0.848				
	JS2	0.901				
	JS3	0.879	0.912	0.915	0.938	0.792
	JS4	0.916				
	JS5	0.884				

Note: All indicator loadings exceeded the recommended threshold of 0.70. Cronbach's alpha, rho_A, and composite reliability (CR) values exceeded 0.70, while AVE values were above 0.50, confirming satisfactory reliability and convergent validity.

4.3. Discriminant Validity

The results of the heterotrait–monotrait ratio (HTMT) for assessing discriminant validity are shown in Table 3. According to Henseler et al. (2015), a HTMT of < 0.85 is considered to be acceptable as it suggests there was an adequate discriminant validity among the latent constructs. All the HTMT values were in the range of 0.639 to 0.721, which were lower than the recommended range. The HTMT value between cross-cultural leadership and employee engagement was 0.684 and the values between cross-cultural leadership and job satisfaction and between employee engagement and job satisfaction were 0.639 and 0.721, respectively. These results indicate that each construct is statistically different from the others, and the measurement model has acceptable discriminant validity with no problems with construct overlap.

Table 3. Discriminant Validity (HTMT Criterion)

Construct	CCL	EE	JS
Cross-Cultural Leadership (CCL)	—		
Employee Engagement (EE)	0.684	—	
Job Satisfaction (JS)	0.639	0.721	—

Note: All HTMT values are below the conservative threshold of 0.85, indicating adequate discriminant validity.

4.4. Structural Model Assessment and Hypothesis Testing

Table 4 shows the findings of structural model and hypothesis testing by using the bootstrapping procedure with 5,000 re-sample. The results show that cross-cultural leadership significantly positively affects employee engagement ($\beta = 0.642$, $t = 12.11$, $p < 0.001$), which is consistent with the hypothesis (H1). Similarly, cross-cultural leadership has a significant and positive impact on job satisfaction ($\beta = 0.291$, $t = 4.28$, $p < 0.001$), which supports H2. These findings also show that employee engagement has a positive impact on job satisfaction ($\beta = 0.503$, $t = 7.62$, $p < 0.001$), thereby supporting H3. About the mediation analysis, the indirect path from cross-cultural leadership to job satisfaction as a result of employee engagement was found significant ($\beta = 0.323$, $t = 6.59$, $p < 0.001$), thus supporting H4 and showing an complementary partial mediation. The model was moderately explanatory, accounting for 41.2% of the variance in employee engagement and 55.6% of the variance in job satisfaction. Moreover, the predictive relevance values ($Q^2 = 0.286$ for employee engagement and $Q^2 = 0.394$ for job satisfaction) exceeded zero, indicating satisfactory predictive accuracy. Lastly, the standardized root mean square residual (SRMR = 0.056) was below the recommended level of 0.08, showing an acceptable overall fit of the model. All together, the results have yielded solid empirical evidence for the proposed conceptual framework and validated the importance of cross-cultural

leadership in improving the Malaysian employees' levels of employee engagement and job satisfaction.

Table 4. Structural Model Assessment and Hypothesis Testing

Hypothesis	Structural Relationship	β	Std. Error	t-value	p-value	95% CI	Decision
H1	Cross-Cultural Leadership → Employee Engagement	0.642	0.053	12.11	<0.001	[0.541, 0.744]	Supported
H2	Cross-Cultural Leadership → Job Satisfaction	0.291	0.068	4.28	<0.001	[0.157, 0.423]	Supported
H3	Employee Engagement → Job Satisfaction	0.503	0.066	7.62	<0.001	[0.372, 0.631]	Supported
H4	Cross-Cultural Leadership → Employee Engagement → Job Satisfaction (Indirect Effect)	0.323	0.049	6.59	<0.001	[0.228, 0.418]	Supported
Model Fit and Predictive Assessment							
Indicator						Value	Recommended
R ² (Employee Engagement)						0.412	Moderate
R ² (Job Satisfaction)						0.556	Moderate-Substantial
Adjusted R ² (Employee Engagement)						0.409	
Adjusted R ² (Job Satisfaction)						0.552	
Q ² (Employee Engagement)						0.286	>0
Q ² (Job Satisfaction)						0.394	>0
SRMR						0.056	<0.08

Note: Bootstrapping was performed with 5,000 resamples. The structural model demonstrates satisfactory explanatory and predictive power. Cross-cultural leadership significantly enhances employee engagement and job satisfaction, while employee engagement partially mediates the relationship between cross-cultural leadership and job satisfaction. The model fit indices (SRMR = 0.056) and predictive relevance (Q² > 0) indicate a well-fitting and predictive model.

4.5. Calibration of Fuzzy Sets

The calibration thresholds that were used to convert the original data, representing each item on the Likert scale, into fuzzy-set membership scores for the fsQCA analysis are shown in Table 5. The 5th percentile, the 50th percentile and the 95th percentile were used as the qualitative anchors for full non-membership, crossover and full membership, respectively, following the proposed direct calibration approach by Ragin (2008). The thresholds for the calibration were set to individual values according to the empirical distribution of the data for each construct. Specifically, the points of maximum ambiguity between membership and non-membership in each set were 3.40 for the cross-cultural leadership set, 3.60 for the employee engagement set, and 3.50 for the job satisfaction set. The result of this calibration process was the proper transformation of the variables to fuzzy-set scores, while still maintaining significant differences between respondents. All the calibrated data was then used as input in the necessity and sufficiency analyses performed with fsQCA 4.1.

Table 5. Calibration Anchors for Fuzzy-Set Membership Scores

Variable	Full Non-membership (5th Percentile)	Crossover (50th Percentile)	Full Membership (95th Percentile)
Cross-Cultural Leadership (CCL)	2.00	3.40	4.80
Employee Engagement (EE)	2.20	3.60	4.90
Job Satisfaction (JS)	2.10	3.50	4.90

4.6. Necessity Analysis

The results of the necessity analysis for high job satisfaction are shown in Table 6. A consistency value of 0.90 or higher can be considered as signifying that a condition can be treated as a necessary condition for the outcome to occur, following established fsQCA guidelines. The result shows that employee engagement has a consistency score of 0.921 along with a coverage score of 0.811, which exceeded the threshold and indicates that it is a necessary condition to have a high level of job satisfaction. Cross-cultural leadership, on the other hand, had a consistency value of 0.872, which was quite high but still below the criterion necessary for this value. Similarly, both the absence of cross-cultural leadership ($\sim$ CCL) and the absence of employee engagement ($\sim$ EE) also had significantly lower consistency values, 0.348 and 0.271, respectively, indicating that these conditions are not sufficient for high job satisfaction. Overall, the necessity analysis indicates that employee engagement is an essential condition and job satisfaction will probably not be high if employees are not engaged in their work.

Table 6. Necessity Analysis for High Job Satisfaction

Causal Condition	Consistency	Coverage	Necessary Condition
Cross-Cultural Leadership (CCL)	0.872	0.764	No
Employee Engagement (EE)	0.921	0.811	Yes
$\sim$ Cross-Cultural Leadership	0.348	0.401	No
$\sim$ Employee Engagement	0.271	0.334	No

Note: Decision Criterion: Consistency ≥ 0.90 indicates a necessary condition.

4.7. Sufficiency Analysis

The fsQCA sufficiency analysis results are shown in Table 7, which lists all the different combinations of causal conditions associated with high levels of job satisfaction. Three adequate configurations were found with values above the suggested consistency threshold of 0.80, indicating adequate causal solutions. This first configuration (S1), in which both cross-cultural leadership and employee engagement were present, had the highest raw coverage (0.563) and consistency (0.942), which means that this configuration accounted for the highest percentage of "high job satisfaction" cases. The second configuration (S2) shows that when cross-cultural leadership is strong, it can, in some cases, contribute to high job satisfaction, and the third configuration (S3) suggests that high employee engagement can be an independent factor in high job satisfaction, even in the absence of strong cross-cultural leadership. The identified configurations were reliable and substantively meaningful as the overall solution obtained a solution consistency of 0.928 and a solution coverage of 0.748. The results of the PLS-SEM are complemented by the following findings: the principle of equifinality was discovered, so that different combinations of conditions lead to the same result. While cross cultural leadership has a positive impact on employee attitudes, employee engagement always comes up as the central condition, which leads to high job satisfaction of Malaysian employees.

Table 7. Sufficiency Analysis for High Job Satisfaction

Configuration	Cross-Cultural Leadership	Employee Engagement	Raw Coverage	Unique Coverage	Consistency
S1	•	•	0.563	0.171	0.942
S2	•	⊗	0.217	0.048	0.901
S3	⊗	•	0.188	0.036	0.914
Overall Solution Statistics					
Indicator					Value
Solution Coverage					0.748
Solution Consistency					0.928
Frequency Threshold					3
Consistency Threshold					0.80

Number of Configurations

3

Note: ● = Presence of the condition (core condition). ⊗ = Absence of the condition (core absence)

5. Discussions

The main aim of this research was to examine the effect of cross-cultural leadership on employee engagement and job satisfaction of employees in Malaysia and the mediator of employee engagement. The conclusions yielded good empirical evidence for the proposed conceptual framework and showed that cross-cultural leadership is an important organisational resource in multicultural work settings. As expected, the findings support the Job Demands–Resources (JD-R) Theory, showing that the positive experiences of the leaders in terms of cultural awareness, inclusiveness, adaptability, and communication effectiveness positively influence the work environment, which in turn positively affects employees' motivation and positive work attitudes. The findings are more relevant in Malaysia where organisations are increasingly using culturally diverse workforce to ensure the competitiveness and innovation of the organisation.

The results show that cross-cultural leadership has a significant positive effect on employee engagement, thus supporting H1. This finding indicates that when leaders respect cultural differences, involve employees and are able to effectively communicate across cultures, employees are more willing to be energetic, committed and psychologically engaged in their work. Such a result is similar to Chan (2019) who stated that supportive leadership behaviours contribute to employees' work engagement under participative leadership. Likewise, Farndale and Murrer (2015) stated that leadership is an important job resource that can boost employee engagement in different national contexts. The current results also support the study conducted by He et al. (2022), who revealed that leadership behaviours have a positive impact on work engagement among Chinese ex-patriates within a Job Demands–Resources framework and Farzana and Charoensukmongkol (2024) who showed that transformational leadership positively affects the employee engagement through psychological empowerment in Bangladesh and Thailand. Overall, these studies indicate that leaders that are able to offer support, inclusion, and developmental opportunities have a significant positive impact on employee engagement no matter the style of leadership. Building on this, the current study shows that cross-cultural leadership is an effective leadership style to motivate employees in a multicultural context of the Malaysian organisation.

Results also show that cross-cultural leadership has a positive effect on job satisfaction, which supports H2. This finding suggests that culturally competent leadership can lead to increased employee satisfaction by establishing workplaces where employees from diverse cultural backgrounds are treated equally, fairly, and with respect, allowing them to feel valued and appreciated. This aligns with Prince (2026) who highlighted relational leadership as a key to improving job satisfaction of employees in various cultures. Similarly, Tsai and Qiao (2023) found that when employees' cultural expectations are met by the behaviours of their supervisors, they are more satisfied with their role, especially in cross-cultural supervisor–subordinate dynamics. The study by Huang et al. (2024) corroborates these findings, showing that organizational practices related to leadership are important across both collectivistic and individualistic societies in determining job satisfaction. The current results further advance these studies by showing that leadership per se is a significant predictor of job satisfaction in a multicultural setting in Southeast Asia. Employees who find the leadership to be culturally sensitive and supportive are likely to respond with more positive attitudes towards work in line with the theory of Social Exchange Theory.

H3 was also supported by the study as significant results indicated that employee engagement has a significant impact on job satisfaction. The discovery backs up the idea that when your employees are engaged, they are more enthusiastic, committed, and fulfilled in their jobs, which means that they are more satisfied. This finding is consistent with Chan (2019) who found work engagement to be an important factor to job satisfaction

among employees. Likewise, Wirawan et al. (2020) explained that employee engagement and job satisfaction are closely related and mutually supportive. Farndale and Murrer (2015) also showed that when people are given the necessary resources to work in the organisation, they are more engaged, and this in turn leads to positive workplace attitudes. Hence, the current results add to the robust evidence of the importance of employee engagement as a psychological pathway between organisational resources and beneficial employee outcomes.

In terms of mediation analysis, the results showed that the relationship between cross-cultural leadership and job satisfaction was mediated by employee engagement, thus supporting H4. This finding indicates that cross-cultural leadership can directly influence job satisfaction, and indirectly increase job satisfaction through workers' work involvement. The result is in a close agreement with Chan (2019) who revealed that there is a mediation effect between participative leadership and job satisfaction. Similarly, Marpaung et al. (2023) showed that the mediating role of cross-cultural leadership exists between cultural diversity management and employee work performance, indicating that cross-cultural leadership is a key mechanism for transforming the cultural diversity management practices into better work performance. While other research has explored the different mediations such psychological empowerment (Farzana & Charoensukmongkol, 2024) and job satisfaction (Wirawan et al., 2020), the current study offers fresh evidence of employee engagement as one of the important mediations through which cross-cultural leadership positively influences employees' workplace experiences. This discovery has added value to the present leadership literature because it combines the cross-cultural leadership, employee engagement and job satisfaction within one theoretical context.

The configurational results derived from the fsQCA analysis also help to explain the PLS-SEM results. The symmetric analysis showed that the net positive effects of cross-cultural leadership and employee engagement were robust, the fsQCA results indicated that there are multiple causal pathways (equifinality) that can result in high job satisfaction. Interestingly, employee engagement is a necessary condition for high job satisfaction, which suggests that employees are unlikely to report high satisfaction if they are not engaged in their jobs. Furthermore, the most powerful setting was a high score on both cross-cultural leadership and employee engagement, reflecting the complementary nature of leadership and employee motivation in multicultural workplaces. The results in this paper reveal that the relationship between employee attitudes and organisational factors is not always linear, but can be a result of different combinations of organisational factors. Altogether, PLS-SEM and fsQCA can be combined to gain a more complete picture of employee behaviour, both in terms of net effects and configurational relationships.

6. Conclusions

The present study aimed to explore the impact of cross-cultural leadership on employee engagement and job satisfaction among Malaysian employees, which is based on the Job Demands–Resources (JD-R) Theory and Social Exchange Theory. The study leverages 240 employees data and adopts a complementary analytical technique (PLS-SEM and fsQCA), which renders satisfactory empirical evidence that cross-cultural leadership is a key factor for positive employee attitudes in multicultural workplaces. Specifically, the results show that cross-cultural leadership has a significant positive effect on employee engagement and job satisfaction, and that employee engagement has a significant positive effect on job satisfaction, as well as a partial mediation effect on the relationship between the cross-cultural leadership and job satisfaction. In addition, the findings obtained with fsQCA indicate that employee engagement is a necessary condition for high job satisfaction, and that several combinations of cross-cultural leadership and employee engagement can lead to the same positive outcome—thus supporting the equifinality principle.

The study has a number of significant theoretical contributions. First, it contributes to growing literature on cross-cultural leadership by providing a new perspective that suggests its importance as an antecedent of employee engagement and job satisfaction in

addition to the existing literature, which mainly focuses on participative, transformational, authentic, ethical, and paternalistic leadership. Second, the study provides an explanation of both the motivational and relational aspects of culturally competent leadership that impact employee outcomes by incorporating elements of the JD-R Theory and Social Exchange Theory. Third, the study advances methods by synthesizing symmetric (PLS-SEM) and asymmetric (fsQCA) analysis, to gain deeper insight into the complex nature of the relationship between leadership, engagement and job satisfaction. Last, the study contributes to the sparse empirical literature on cross cultural leadership in the Malaysian context and provides the insights into effective leadership in multi-cultural organisations.

Practically, the results indicate that organisation need to invest in developing the cross-cultural competencies of their leaders through leadership development programmes, diversity management initiatives, intercultural communication training etc. Organisations should also foster a workplace culture that is inclusive of everyone, their diverse cultures, and promotes respect, collaboration and open communication. Given that employee engagement was shown to be an important mediator and necessary for high job satisfaction, managers should put in place policies that foster employee involvement, recognition, empowerment, and employee development. This will help to increase psychological commitment of employees and hence better job satisfaction and organisational effectiveness. The recommendations are especially relevant to those multinational corporations and culturally diverse organisations in Malaysia and other multicultural economies.

Even with its contributions, some limitations of this study should be noted. One is, that in the cross-sectional study design, causal relations between the variables can only be established in a limited way. Future studies could be longitudinal and/or experimental in order to study employee attitudes changes over time. Second, the data were gathered only from Malaysian employees, and this may not be applicable to other cultures. An analysis of comparative studies referencing more than one country would help to gain a wider perspective of cross-cultural leadership in various institutional contexts. Third, self-reported survey data was used, and although procedural and statistical steps were taken, the possibility of common method bias exists. In future, it might be useful to include supervisor rating or other objective measures of organisational performance to confirm the findings. Lastly, future research might add other mediating factors and moderating factors, like psychological safety, organisational trust and psychological empowerment or cultural intelligence, organisational culture and diversity climate, to include in the proposed framework to explain employee attitudes and behaviours in multicultural workplaces in a more complete manner.

Declarations

Ethics and Guidelines: The study was conducted in accordance with the Declaration of Helsinki. The ethical approval specifically covers the research procedures and data collection activities conducted for this study.

Consent to participate: Written informed consent was obtained from all participants prior to data collection. Consent was obtained using a standardized written form, signed by each participant before participation in the survey.

Consent to publish: The authors have provided consent to publish.

Competing interests: The authors declare no competing interests.

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Declaration of using generative AI: During the preparation of this work the author(s) used ChatGPT in order to correct the grammatical errors. After using this tool/service, the author(s) reviewed and edited the content as needed and take full responsibility for the content of the published article.

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