





# Cultural diversity in top management teams: A multigroup study on leadership and performance



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**Orientation:** In Indonesia's highly competitive and culturally diverse business environment, leadership and top management team (TMT) dynamics play a crucial role in shaping firm performance (FP), especially in sales and marketing sectors.

**Research purpose:** This study investigates the influence of leadership style (LS), business model innovation (BMI) and TMT multiculturalism on FP, while examining the moderating role of ethnic differences in TMTs.

**Motivation for the study:** Despite Indonesia's vast ethnic diversity, limited research has explored how managerial ethnic backgrounds influence leadership effectiveness and organisational outcomes, particularly in dynamic market contexts.

**Research approach/design and method:** Using a quantitative approach with a survey design, data were collected from 500 top managers across Indonesia's five largest ethnic groups (Batak, Bugis, Javanese, Madurese, and Sundanese). Stratified random sampling ensured proportional representation. Data analysis employed partial least squares structural equation modelling and multigroup analysis (MGA) to examine variable relationships and ethnic-based moderations.

**Main findings:** The study finds that LS, BMI and TMT multiculturalism significantly influence FP. However, MGA reveals no significant differences across ethnic groups, suggesting that leadership effectiveness is driven more by managerial competence and experience than by ethnic background.

**Practical/managerial implications:** These findings emphasise the need for firms to focus on competency-based leadership development while fostering inclusive management practices, regardless of ethnic background.

**Contribution/value-add:** The study contributes to leadership and diversity literature by affirming the universal aspects of leadership effectiveness and providing empirical evidence on the limited role of ethnicity in moderating leadership influence on FP in Indonesia.

**Keywords:** leadership; top management team multiculturalism; company performance; ethnicity; multigroup analysis.

## Introduction

In an increasingly complex era of globalisation, market competition is becoming more dynamic with the increasing need to adapt to rapid changes (Dickson, 2023). Firms continue to face increasing complexity and uncertainty, including technology, new competitors and environmental changes. Therefore, firms in various sectors face significant pressure to improve performance to maintain their competitive position. In the midst of this competition, cultural and ethnic differences in Indonesia are one of the factors that can affect how organisations are managed, especially at the managerial level (Almahasneh et al., 2023; Kaur Bagga et al., 2023).

Indonesia, as the country with the largest ethnic diversity in the world, has unique cultural characteristics in each region. Various studies have shown that a leader's culture and ethnic background can influence their leadership style (LS), which ultimately influences the strategies implemented in the organisation (Almahasneh et al., 2023). Top management teams (TMTs) consisting of individuals with different ethnic backgrounds have the potential to bring variations in how they formulate policies, face market challenges and manage company resources (Adserias et al., 2017; Galbreath et al., 2020). However, there is still a lack of research that specifically examines how ethnic differences at the managerial level can affect firm

performance (FP), especially in highly competitive sectors such as sales and marketing.

Firm performance, especially in terms of increasing sales and marketing effectiveness, is not only determined by a solid business strategy but also by the manager's ability to manage the team, respond to market needs and adapt to external changes (Mattila et al., 2020; Miao et al., 2018). In the Indonesian context, cultural differences between ethnic groups can affect strategic decision-making and LSs, which can ultimately create differences in FP. This raises an important question: do differences in managers' cultural background and ethnicity have a significant influence on their effectiveness in managing and improving FP?

This study aims to examine the influence of ethnic differences at the managerial level on FP, focusing on the sales and marketing sector. Using the multigroup analysis (MGA) method on the partial least squares (PLS) approach, this study explored whether LSs influenced by certain ethnic backgrounds, significantly influence differences in business model innovation (BMI) and FP. This approach is expected to provide deeper insight into the importance of understanding the dynamics of cultural diversity in influencing FP in Indonesia.

## Literature review

Cultural and ethnic diversity has long been one of Indonesia's strengths. With more than 300 ethnic groups and tribes, each group has its own unique traditions, values and approaches to leading and managing resources. These differences create rich dynamics in various aspects of life, including in the context of organisations and management. Each ethnic group in Indonesia has cultural characteristics that can influence their LS (Moslehpour et al., 2023). Of the more than 300 ethnic groups and tribes, there are five largest ethnic groups in Indonesia, namely the Batak, Bugis, Javanese, Madurese, and Sundanese (Poerwanto, 2016). For example, the Javanese people often use the value of '*tepo seliro*' or tolerance as a guideline in social and managerial interactions, which tend to prioritise harmony, patience and a hierarchical approach in decision-making (Al Fauzan et al., 2021). In the Sundanese tribe, leadership characteristics are often associated with being friendly, inclusive and upholding the values of togetherness, in other words, the values of '*silih asah, silih asih, silih asuh*' [Mutual sharpening, mutual loving, mutual nurturing] are a reflection of their leadership approach (Damayana et al., 2021; Hidayatuloh, 2020). In the Batak tribe, leadership character is identical to the nature of being firm, brave and having a hard-working spirit. The value of '*dalihan na tolu*' [Three-legged stove] emphasises the importance of kinship and social responsibility (Butar-butur et al., 2023). The Madurese tribe with the value of '*bhuppa' bhapu' ghuru rato*' [Father, mother, teacher, ruler] emphasises the character of a leader who reflects courage, honesty and firmness in decision-making, which places respect on hierarchy and authority showing that they tend to be direct in managing conflict (Hefni, 2007). Meanwhile, the Bugis tribe has a leader character that reflects a sense of self-respect and solidarity with the principle of the value of '*siri' na pace*' [Honor and courage] (Ismail, 2020).

This uniqueness not only reflects cultural richness but also influences how a leader manages a team and formulates firm strategy. This diversity can be a source of strength because it allows for different perspectives in decision-making.

## Leadership style, top management team multiculturalism, and business model innovation as drivers of firm performance

Leadership is a key element in directing firms to adapt to changes in the dynamic business environment (Dickson, 2023). According to Bass and Avolio (1994), transformational LS has a significant influence on innovation in firms, because leaders with this style tend to encourage creativity, take risks and create inspiring visions (Zhu & Huang, 2023). Additionally, a transformational LS that focuses more on efficiency can also provide the structure needed to ensure that innovation implementation is effective (Naguib & Naem, 2018). Leaders from different cultural backgrounds may exhibit varying leadership behaviours influenced by ethnic values, such as the collaborative tendencies of Sundanese leaders or the result-oriented focus of Batak or Madurese leaders, shaping how innovation is approached and executed. When these leadership approaches are effectively aligned with the firm's strategic goals, they not only enhance BMI but also improve organisational performance by ensuring responsiveness, alignment and execution of innovative ideas (Chin, 2013; Judge & Piccolo, 2004).

Top management team multiculturalism refers to the cultural diversity present in the TMT. The upper echelon theory (Hambrick & Mason, 1984) states that the personal characteristics of TMT members, including cultural background, influence their perspectives in strategic decision-making. In the Indonesian context, cultural diversity among TMT members, for example from Batak, Bugis, Javanese, Madurese, and Sundanese, brings variations in perspectives, values and approaches in dealing with market complexity. This cultural diversity can be a valuable strategic resource, as TMT members with different backgrounds bring unique insights that enable the firms to recognise and respond to market needs more effectively (Seijts & Milani, 2022). For example, leaders from the Bugis tribe who uphold the value of '*siri' na pace*' [Honor and courage] may be more proactive in maintaining the firms' honour through innovation, while leaders from the inclusive and cooperative Sundanese tribe may encourage cross-divisional collaboration to create new business models. Beyond BMI, multicultural TMTs also influence FP by enriching strategic dialogue, reducing groupthink and strengthening innovation execution (Falomir-Pichastor & Frederic, 2013; Maluku et al., 2019). However, this diversity must be managed effectively to avoid potential conflicts and ensure cohesive decision-making that enhances long-term outcomes.

Business model innovation encompasses radical changes in how companies create, deliver and capture value (Franco et al., 2021; Herrera, 2016). Leaders who have the ability to recognise opportunities, motivate teams and address market

challenges play a critical role in ensuring the success of this innovation (Almahasneh et al., 2023). Thus, adaptive and contextual LSs based on cultural background are predicted to improve a firm's ability to innovate its business model. In the context of Indonesian ethnicity, ethnic differences affect both LS and dynamics within the TMT (Li et al., 2024). The study by Triandis and Hofstede (1993) emphasises the influence of cultural dimensions such as collectivism and hierarchy on the way individuals interact in organisations. This diversity can provide strategic advantages by creating a work environment rich in perspectives, which is essential in identifying opportunities and developing innovative solutions (Franco et al., 2021). Thus, ethnic diversity in TMT not only reflects the reality of Indonesian culture but can also be a catalyst for improving BMI. Ultimately, successful BMI is closely linked to FP because it enables firms to meet evolving customer needs, improve operational efficiency and generate new revenue streams, which are key outcomes that are especially valuable in dynamic and competitive markets (Latifi et al., 2021; Omar et al., 2019; Tian et al., 2019). Based on the literature review, the following hypotheses were formulated:

- H1:** Leadership style has a positive influence on business model innovation.
- H2:** Top management team multiculturalism has a positive influence on business model innovation.
- H3:** Business model innovation has a positive influence on firm performance.
- H4:** Leadership style has a positive influence on firm performance.
- H5:** Top management team multiculturalism has a positive influence on FP.

### Business model innovation as a mediating variable

Business model innovation acts as a tool to transform creative ideas generated by team diversity into measurable results (Chesbrough & Rosenbloom, 2002). For example, the courage of Batak tribal leaders combined with the inclusiveness of Sundanese tribal leaders can produce innovations that are not only relevant to local needs but also allow the firm to compete in the global market. In other words, cultural diversity in TMT provides the foundation for BMI, which ultimately contributes to improving FP (Nielsen, 2010).

With BMI as a mediator, LS not only directly affects FP but also through its ability to drive change in the way the firm creates value (Clauss et al., 2021; Hamelink & Opdenakker, 2019; Salfore et al., 2023). Effective leaders create a strategic vision that drives BMI implementation, ultimately increasing sales and the firm's ability to survive in the face of market pressures.

Innovation in business models serves as a strategic bridge that enables firms to translate the potential of leadership and cultural diversity in TMTs into tangible results in FP (Orlando et al., 2004). Business model innovation reflects the ability of a firm to create new value through significant changes in the way the business is structured and managed (Herrera, 2016). In this context, BMI becomes a key tool to encourage firms to

face market pressures, increase operational effectiveness and create competitive advantages. Based on this, the following hypotheses were formulated:

- H6:** Business model innovation mediates the relationship between leadership style and firm performance.
- H7:** Business model innovation mediates the relationship between top management team multiculturalism and firm performance.

### Ethnic diversity as a moderating variable (multigroup analysis)

In the context of ethnic diversity, the effectiveness of LSs can vary based on the cultural values inherent in each tribe. Triandis and Hofstede's (1993) theory of cultural dimensions suggests that each culture has unique preferences for structure, decision-making and communication styles. For example, Javanese people with the value of '*tepo seliro*' tend to value leadership that is oriented towards harmony and collectivity, while Batak people with the culture of '*dalihan na tolu*' may respond more to a direct LS. This difference shows that the effectiveness of an LS in improving FP is highly dependent on the alignment of the LS with the prevailing cultural norms in the firm (Anning-Dorson, 2021; Arghode et al., 2022). At the management level, cultural diversity within a team can bring unique perspectives, global experience and adaptability to the market (Adserias et al., 2017). However, cultural diversity can also give rise to intra-team conflict, especially if there are significant differences in cultural perspectives and values between team members. This diversity is often associated with innovation and strategic flexibility, which ultimately influences FP (Falomir-Pichastor & Frederic, 2013; Hambrick & Mason, 1984).

Ethnicity as a moderator plays an important role in this context. For example, collectivist cultures such as those of the Javanese or Bugis may be more supportive of implementing innovations involving cross-team collaboration, while cultures with an orientation toward courage and independence, such as the Batak or Madurese, may be more suited to aggressive business models in reaching the market. In a multicultural environment, understanding how particular cultural values influence the acceptance and effectiveness of innovative business models becomes critical to ensuring optimal performance.

As a variable for MGA, ethnic diversity is used to test whether there are differences in the influence of LS, TMT multiculturalism and BMI on FP based on ethnic background, by looking at variations in organisational members' preferences and responses to leadership:

- H8:** There are significant differences between ethnic groups (ethnic diversity) in the influence of leadership style, TMT multiculturalism and business model innovation on firm performance.

### Research methodology

This study used a quantitative approach with a survey design to test the influence of LS, TMT multiculturalism, BMI and ethnic diversity moderation on FP. The population in this

study comprised top management members of firms in Indonesia, including chief executive officers (CEOs), directors and senior managers who play strategic roles in determining firm policies. Respondents were selected using stratified random sampling to ensure the proportional representation of the five largest ethnic groups in Indonesia, so that an in-depth analysis of ethnic diversity moderation could be conducted. The selection criteria included: coming from the five largest ethnic groups in Indonesia (Batak, Bugis, Javanese, Madurese, Sundanese), having at least 3 years of experience in a managerial position and participating in strategic decision-making in the firm.

The population of top-level executives in registered Indonesian firms is estimated to be around 3000–5000 individuals. Based on this, a target sample size of 640 was determined to meet statistical power requirements and allow for effective stratification across ethnic groups. A total of 500 valid responses were obtained through an online survey using a 5-point Likert scale questionnaire, which results in a response rate of approximately 78%. This is generally considered acceptable in studies involving senior-level participants. Data analysis was conducted using partial least squares structural equation modelling (PLS-SEM) and using Smart PLS to test validity, reliability, relationships between variables and differences in influence based on ethnic groups through MGA. This approach is designed to provide insight into the role of cultural diversity in improving FP.

The research was conducted by involving five variables, using the item adapted from previous studies. The LS variable was measured with four items (Alston et al., 2021; Yukl, 2017), TMT multiculturalism variable was measured with four items (Carpenter et al., 2004; Lakshman & Gonzalez, 2023; Orlando et al., 2004), BMI variable was measured with three items (Chesbrough & Rosenbloom, 2002), and FP variable was measured with four items (Moghaddam et al., 2021). The detailed questionnaire item is presented in Table 1.

## Ethical considerations

Ethical clearance to conduct this study was obtained from Universitas Pelita Bangsa (020/EC/PPM-UPB/III/2024). All

procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

## Results

### Respondents' characteristics

The profile of respondents in this study indicate that most participants came from managerial positions (43.6%), followed by directors (35.2%) and CEOs (21.2%), reflecting the representation of strategic leadership in the organisation. In terms of work experience, 44% of the respondents had 6–8 years of work, followed by those with 3–5 years of experience (30.2%) and more than 8 years (25.8%), indicating an even distribution of experience. Ethnic diversity was also evident in this sample, with most of the respondents being Javanese (26.2%), followed by Sundanese (23%), Batak (21.4%), Madurese (18.8%) and Bugis (10.6%). This provides a representative sample for analysing ethnic differences in organisation leadership. In terms of industry, respondents were spread across various sectors, with most in automotive (26%), shipping services (24%) and food and beverage (23%), while the pharmaceutical (13%) and chemical trading (14%) sectors were also well-represented, and these respondents worked on the sales and marketing division. This distribution ensured that there was diversity in business contexts that could enrich research findings related to the influence of leadership based on ethnic background on FP.

The results of the descriptive analysis (Table 2) show that the average value for LS is 4.07 with a standard deviation of 0.89, TMT multiculturalism has an average of 4.25 and a standard

**TABLE 2:** Descriptive statistics and correlations for the complete model.

Variables	Mean	SD	LS	TMT	BMI	FP
LS	4.07	0.89	1.000	-	-	-
TMT	4.25	0.83	0.598**	1.000	-	-
BMI	4.29	0.77	0.516**	0.794**	1.000	-
FP	4.05	0.91	0.408**	0.672**	0.639**	1

LS, leadership style; TMT, top management team; BMI, business model innovation; FP, firm performance; SD, standard deviation.

\*\* $p < 0.01$ .

**TABLE 1:** Item measurement.

Variables	Items
Leadership style (Alston et al., 2021; Yukl, 2017)	<ol style="list-style-type: none"> <li>1. Visionary leadership: Leaders provide a clear vision for the future</li> <li>2. Inspirational motivation: Leaders provide motivations and inspirations to the teams</li> <li>3. Individualised consideration: Leaders care about the individual needs of the teams</li> <li>4. Decision-making ability: Leaders can make a decision quickly and effectively</li> </ol>
Top management team multiculturalism (Carpenter et al., 2004; Lakshman and Gonzalez, 2023; Orlando et al., 2004)	<ol style="list-style-type: none"> <li>1. Cultural diversity: Cultural diversity of TMT members</li> <li>2. Intercultural experience: The experience of the TMT members in the context of different cultures</li> <li>3. Team-level cultural intelligence (CQ): The ability to understand and adapt to the cultural differences in the teams</li> <li>4. Global mindset: The perspectives of TMT members in understanding and working in a global scale</li> </ol>
Business model innovation (Chesbrough and Rosenbloom, 2002)	<ol style="list-style-type: none"> <li>1. Value creation: Innovation in how companies create value for customers</li> <li>2. Value delivery: Changes in systems, technologies or supply chains to deliver values</li> <li>3. Value capture: Innovation in pricing mechanisms or product or service monetisation</li> </ol>
Firm performance (Moghaddam et al., 2021)	<ol style="list-style-type: none"> <li>1. Market adaptability: The firm's ability to adapt to market changes</li> <li>2. Brand equity: The strength and image of the brand as perceived by consumers</li> <li>3. Revenue growth: The increase in the firm's revenue over time</li> <li>4. Market share growth: The growth in the proportion of the market controlled by the firm</li> </ol>

Note: Please see the full reference list of this article Setyaningrum, R.P., Muafi, M., Hermawati, N.F., & Widyastuti, T. (2025). Cultural diversity in top management teams: A multigroup study on leadership and performance. *SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur*, 23(0), a3043. <https://doi.org/10.4102/sajhrm.v23i0.3043> for more information. TMT, top management team.

deviation of 0.83, BMI has an average of 4.29 with a standard deviation of 0.77 and FP has an average of 4.05 with a standard deviation of 0.91. Pearson correlation analysis indicates a significant positive relationship between all variables at the 0.01 level of significance. Specifically, LS has a correlation of 0.598 with TMT, 0.516 with BMI and 0.408 with FP. Top Management Team shows a correlation of 0.794 with BMI and 0.672 with FP, while BMI has a correlation of 0.639 with FP. These positive correlations indicate that increases in LS, TMT and BMI are associated with increases in FP.

This study’s analysis of convergent validity and reliability (Table 3) indicated satisfactory results. The loading factor for all items in each construct was above 0.7, meeting the criteria suggested by Hair et al. (2019) for convergent validity. In addition, the Cronbach’s Alpha (CA) value for each construct exceeded the threshold of 0.7, indicating good internal consistency. These results were consistent across the complete sample as well as subgroups based on ethnicity. Thus, the instruments used in this study can be considered reliable and valid to measure the intended constructs.

Next, a discriminant validity test was conducted (Table 4) to measure the extent to which the model’s constructs differ. The Fornell–Larcker criterion states that each construct’s square root of the Average Variance Extracted (AVE) must be greater than the correlation between other constructs. In the results of this study, the diagonal value (square root of AVE) for each construct was higher than the correlation value between other constructs, both in the complete sample and subgroups based on ethnicity. This indicated that each construct had good discriminant validity, indicating that the constructs measured different concepts as expected.

### Structural model and hypothesis testing

The structural model in this study evaluated the relationship between exogenous and endogenous latent variables to determine their strength and significance.

The results of the analysis indicated that all relationships between the variables were significant with a positive direction, which is presented in Table 5 and Figure 1. Top management team multiculturalism had the largest influence on BMI, followed by LS. Furthermore, both LS and TMT directly affected FP, with BMI as a mediator that strengthened the relationship. Therefore, all hypotheses in

**TABLE 4:** Discriminant validity test and reliability test for each ethnic group.

Variables	CR	AVE	BMI	FP	LS	TMT
<b>Full sample</b>						
BMI	0.867	0.684	<b>0.827</b>	-	-	-
FP	0.894	0.679	0.661	<b>0.824</b>	-	-
LS	0.875	0.638	0.527	0.428	<b>0.799</b>	-
TMT	0.901	0.695	0.801	0.696	0.607	<b>0.834</b>
<b>Batak ethnicity</b>						
BMI	0.875	0.701	<b>0.837</b>	-	-	-
FP	0.921	0.745	0.676	<b>0.863</b>	-	-
LS	0.875	0.639	0.546	0.445	<b>0.799</b>	-
TMT	0.906	0.707	0.819	0.770	0.626	<b>0.841</b>
<b>Bugis ethnicity</b>						
BMI	0.887	0.724	<b>0.851</b>	-	-	-
FP	0.826	0.545	0.326	<b>0.738</b>	-	-
LS	0.860	0.606	0.550	0.202	<b>0.779</b>	-
TMT	0.888	0.666	0.639	0.463	0.698	<b>0.816</b>
<b>Javanese ethnicity</b>						
BMI	0.878	0.706	<b>0.840</b>	-	-	-
FP	0.899	0.691	0.689	<b>0.831</b>	-	-
LS	0.853	0.597	0.584	0.614	<b>0.772</b>	-
TMT	0.907	0.709	0.775	0.747	0.729	<b>0.842</b>
<b>Madurese ethnicity</b>						
BMI	0.876	0.702	<b>0.838</b>	-	-	-
FP	0.917	0.735	0.770	<b>0.857</b>	-	-
LS	0.891	0.671	0.488	0.410	<b>0.819</b>	-
TMT	0.892	0.676	0.820	0.756	0.523	<b>0.822</b>
<b>Sundanese ethnicity</b>						
BMI	0.838	0.634	<b>0.796</b>	-	-	-
FP	0.849	0.586	0.674	<b>0.765</b>	-	-
LS	0.893	0.677	0.523	0.357	<b>0.823</b>	-
TMT	0.904	0.703	0.648	0.700	0.545	<b>0.838</b>

Note: Bold diagonal values indicate the square root of AVE, representing each construct’s internal consistency and discriminant validity.

LS, leadership style; TMT, top management team; BMI, business model innovation; FP, firm performance; AVE, average variance extracted; CR, composite reliability.

**TABLE 3:** Convergent validity test and reliability test.

Construct	Items	Full sample		Batak ethnicity		Bugis ethnicity		Javanese ethnicity		Madurese ethnicity		Sundanese ethnicity	
		Loadings	CA	Loadings	CA	Loadings	CA	Loadings	CA	Loadings	CA	Loadings	CA
Business model innovation	BMI1	0.827	0.772	0.834	0.790	0.863	0.809	0.859	0.796	0.858	0.789	0.759	0.716
	BMI2	0.830		0.842		0.869		0.839		0.831		0.804	
	BMI3	0.823		0.836		0.818		0.821		0.825		0.824	
Firm performance	FP1	0.845	0.843	0.900	0.887	0.728	0.735	0.866	0.850	0.870	0.881	0.801	0.774
	FP2	0.845		0.884		0.838		0.814		0.873		0.811	
	FP3	0.865		0.894		0.742		0.894		0.894		0.796	
	FP4	0.733		0.767		0.731		0.742		0.789		0.739	
Leadership style	LS1	0.715	0.811	0.756	0.809	0.812	0.789	0.784	0.774	0.820	0.837	0.758	0.842
	LS2	0.848		0.880		0.790		0.846		0.844		0.844	
	LS3	0.819		0.823		0.764		0.825		0.785		0.863	
	LS4	0.806		0.821		0.746		0.806		0.826		0.821	
Top management team multiculturalism	TMT1	0.749	0.852	0.740	0.860	0.760	0.832	0.775	0.862	0.705	0.839	0.777	0.858
	TMT2	0.875		0.904		0.802		0.866		0.882		0.876	
	TMT3	0.895		0.901		0.903		0.877		0.887		0.902	
	TMT4	0.807		0.808		0.792		0.846		0.802		0.791	

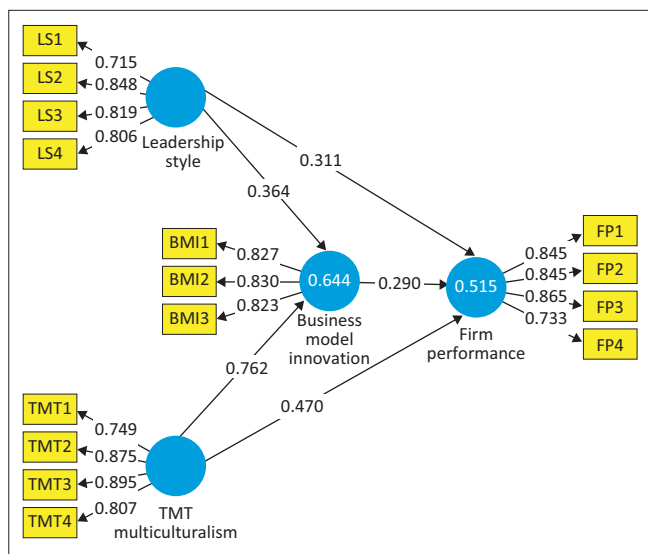
CA, Cronbach’s alpha.

this study (H1–H7) were supported. The path coefficients with *p*-values are provided in Table 5.

### The multigroup analysis for the moderator effects

In this study, MGA was conducted to compare the path coefficients between ethnic groups at the managerial level, to test whether there were significant differences in the relationship between LS, TMT multiculturalism, BMI and FP. Hair et al. (2019) suggest the use of MGA when categorical moderator variables, such as ethnic diversity, influence the relationship between independent and dependent variables simultaneously. However, before conducting MGA, the Measurement Invariance of Composites (MICOM) test must be conducted first to ensure that the comparisons between groups are valid and not influenced by differences in how each group understands or interprets the phenomena being measured. If measurement invariance cannot be demonstrated, then variations in the structural relationships between variables may be due more to differences in understanding concepts between groups than to actual differences in the pattern of those relationships. Therefore, the following sections discuss the MICOM and MGA procedures.

The MICOM procedure is carried out in three stages. The first step is the configurational invariance test, which ensures the measurement model has the same structure across all groups. If this step is not met, the analysis cannot proceed. The second step is the compositional invariance test, which tests whether the relationship between indicators and constructs remains consistent across groups. If the results do not meet the requirements, then further analysis cannot be carried out. The third step is the equal mean and variance test, which compares the mean and variance values between groups to ensure no significant differences in the data distribution. If all these stages are successfully passed, then MGA can be carried out with more valid and reliable results.



FP, firm performance; LS, leadership style; TMT, top management team; BMI, business model innovation.

FIGURE 1: Output of structural model evaluation.

The compositional invariance stage in MICOM aims to ensure that the compared data groups' compositional structure has similarities, shown through the correlation test between groups. The results in Table 6 show that all original correlation values were above the 5.0% permutation limit and were significant (*p*-values > 0.05). It can, therefore, be concluded that all variables (BMI, FP, LS and TMT) meet the requirements for compositional invariance in all pairs of ethnic groups compared. This indicates that the sample distribution between groups had an equivalent composition, allowing further comparison in the next stage of the MICOM analysis.

Continuing from the compositional invariance stage, the results of the composites equality of mean values and

TABLE 5: Structural model path coefficients for the complete model.

Hypothesis	Beta	SD	T	p	Decision
H1 LS → BMI	0.364	0.036	10.116	0.000	Accepted
H2 TMT → BMI	0.762	0.031	24.584	0.000	Accepted
H3 BMI → FP	0.290	0.054	5.422	0.000	Accepted
H4 LS → FP	0.311	0.050	6.230	0.000	Accepted
H5 TMT → FP	0.470	0.063	7.500	0.000	Accepted
H6 LS → BMI → FP	0.319	0.051	6.203	0.000	Accepted
H7 TMT → BMI → FP	0.221	0.042	5.248	0.000	Accepted

FP, firm performance; LS, leadership style; TMT, top management team; BMI, business model innovation; SD, standard deviation.

TABLE 6: Multigroup analysis.

Ethnicity	Hypothesis	Path coefficients difference	p-value original 1-tailed	p-value new	Decisions
Batak vs Bugis	LS → FP	0.249	0.153	0.307	Rejected
	BMI → FP	0.219	0.201	0.401	
	TMT → FP	-0.135	0.735	0.531	
Batak vs Javanese	LS → FP	-0.145	0.846	0.308	Rejected
	BMI → FP	0.044	0.384	0.768	
	TMT → FP	0.010	0.475	0.950	
Batak vs Madurese	LS → FP	0.005	0.490	0.980	Rejected
	BMI → FP	-0.148	0.792	0.415	
	TMT → FP	0.073	0.379	0.758	
Batak vs Sundanese	LS → FP	0.055	0.367	0.735	Rejected
	BMI → FP	0.014	0.474	0.948	
	TMT → FP	-0.032	0.561	0.878	
Bugis vs Javanese	LS → FP	-0.394	0.954	0.092	Rejected
	BMI → FP	-0.176	0.755	0.489	
	TMT → FP	0.145	0.219	0.438	
Bugis vs Madurese	LS → FP	-0.244	0.848	0.304	Rejected
	BMI → FP	-0.367	0.917	0.165	
	TMT → FP	0.208	0.180	0.360	
Bugis vs Sundanese	LS → FP	-0.194	0.798	0.404	Rejected
	BMI → FP	-0.206	0.752	0.496	
	TMT → FP	0.103	0.330	0.660	
Javanese vs Madurese	LS → FP	0.149	0.129	0.258	Rejected
	BMI → FP	-0.192	0.875	0.250	
	TMT → FP	0.063	0.389	0.778	
Javanese vs Sundanese	LS → FP	0.200	0.062	0.124	Rejected
	BMI → FP	-0.030	0.556	0.888	
	TMT → FP	-0.042	0.591	0.818	
Madurese vs Sundanese	LS → FP	0.051	0.371	0.743	Rejected
	BMI → FP	0.162	0.238	0.475	
	TMT → FP	-0.105	0.668	0.664	

FP, firm performance; LS, leadership style; TMT, top management team; BMI, business model innovation.

variances analysis show that there were no significant differences between the ethnic groups. This is evidenced by the permutation  $p$ -values for the mean and variance differences, which were all greater than 0.05, as well as the original difference value, which is within the range of 2.5% – 97.5% permutation limits. Thus, it can be concluded that the mean and variance values of all variables (BMI, FP, LS and TMT) were equivalent across groups so the third stage in MICOM was fulfilled. This means that the study's results can be compared validly across ethnic groups without structural bias in the data distribution, allowing for further MGA.

The results of the MGA provided in Table 6 indicate that there were no significant differences in the relationships between variables (LS  $\rightarrow$  FP, BMI  $\rightarrow$  FP and TMT  $\rightarrow$  FP) among the ethnic groups. This can be seen from the new  $p$ -values that were all greater than 0.05. All the hypotheses of cross-group differences (Path Coefficients Diff) are thus rejected. It can be concluded that the effects of LS, BMI and TMT multiculturalism on FP are homogeneous across ethnic groups. This means that this research model is generally applicable without any significant differences between the various ethnic groups.

## Discussion

The results of the MGA indicate that there was no significant difference in the relationship between variables (LS  $\rightarrow$  FP, BMI  $\rightarrow$  FP and TMT  $\rightarrow$  FP) among the ethnic groups. This indicates that LS, BMI, and TMT multiculturalism influence FP uniformly across ethnic groups. Thus, this research model can be applied generally without any significant differences based on the ethnicity of the respondents. The insignificance of differences between ethnic groups in distinguishing LSs in a company can be explained through several perspectives in the development of management science and globalisation.

Management science has evolved from the classical approach that focused on organisational structure to the modern approach that emphasises flexibility and situational leadership (Stopochkin et al., 2022). Current leadership models are more oriented towards organisational competence and performance than individual demographic characteristics, including ethnic background (Benayoune, 2024; Maloku et al., 2019). Contemporary leadership theories such as transformational leadership, servant leadership and inclusive leadership place more emphasis on leadership skills that can be learned and applied by anyone, regardless of ethnicity (Dickson, 2023). Therefore, companies assess leaders more based on their ability to manage a team and achieve organisational goals rather than on a particular cultural identity. In addition, globalisation has led to the standardisation of management practices worldwide. In the modern business environment, many companies implement global leadership policies and practices, both derived from Western theories and those that have been adapted to local contexts (Stopochkin et al., 2022; Triana et al., 2021). With the presence of leadership

training, managerial development programmes and the use of data-based and technology-based management systems, leadership approaches tend to be uniform across organisations, thereby reducing the influence of ethnicity in determining LS (Alston et al., 2021).

From the perspective of TMT multiculturalism, diversity in the TMT can contribute to the homogenisation of leadership practices in the organisation (Alston et al., 2021; Dickson, 2023). A multicultural TMT enables more inclusive and global-minded decision-making (Triana et al., 2021). In the context of modern organisations, leaders from diverse cultural backgrounds tend to adopt a more adaptive, data-driven approach, and prioritise effectiveness and efficiency in decision-making (Alston et al., 2021). Multiculturalism in TMT can also increase creativity and innovation in leadership, given the various perspectives that can be considered in formulating business strategies. Thus, LS becomes more pragmatic and less influenced by ethnicity.

In many companies, especially in competitive business environments, the workforce often comes from various cultural backgrounds. This creates a multicultural work environment where LSs must be adaptive and inclusive. Organisational leaders tend to adopt approaches that are acceptable to different cultural groups, thereby reducing the likelihood of significant differences in leadership based on ethnicity (Dickson, 2023). In an increasingly performance-based business world, leadership decisions are more influenced by individual competencies, experience and results achieved than by ethnicity (Alston et al., 2021; Benayoune, 2024). Organisations prefer to select leaders based on their expertise in decision-making, problem-solving and the ability to build productive teams, rather than on specific cultural characteristics (Bruine de Bruin et al., 2020).

The results of this study provided evidence that in the context of modern business, ethnicity is not a differentiating factor in a company's LS. This can be linked to the development of increasingly competency-based management science, globalisation that brings standardisation of leadership practices and cultural integration in the world of work that encourages the adoption of more inclusive and adaptive LSs. In addition, diversity in TMT also accelerates the adoption of more universal LSs, further reducing ethnic-based differences.

## Theoretical implications

This study makes an important contribution to the management and leadership literature by showing that ethnicity is not a differentiating factor in the effectiveness of LSs on FP. This finding strengthens the perspective that organisational leadership is more influenced by managerial competencies and strategies than individual demographic factors, in line with the universal leadership effectiveness theory (Miao et al., 2018). In addition, this study supports

contemporary leadership theories such as transformational leadership and inclusive leadership, which emphasise the fact that leadership effectiveness is more related to the leader's ability to build teams, create visions and move organisations toward goal achievement (Peng et al., 2021).

However, some previous studies have shown that ethnic background can influence LS and organisational performance. For example, research by House et al. (2004) found that national and ethnic cultural differences could influence preferences for certain LSs. In the Asian context, several studies also show that collectivistic cultures such as in Indonesia can shape a more paternalistic LS (Farh & Cheng, 2000; Irawanto et al., 2012), while more individualistic cultures tend to be more accepting of participative and performance-based leadership (Miao et al., 2018).

In addition, in studies on TMT multiculturalism, several studies have shown that ethnic diversity in management teams can influence communication patterns, decision-making and teamwork effectiveness (Hambrick & Mason, 1984). Diversity can enhance innovation and creativity, but it can also pose challenges in team coordination and cohesion if not managed well. However, this study's findings suggest that ethnicity does not play a significant role, possibly because of the influence of globalisation and standardisation of managerial practices that have increasingly reduced the impact of ethnic differences on leadership and company performance.

Thus, the results of this study provide support that in the context of today's business world, a leadership approach based on competence and flexibility is more relevant than an approach based on cultural or ethnic characteristics. The difference in results with previous studies shows that the impact of ethnicity on leadership and organisational performance can depend on the industry context, company scale and exposure to global managerial practices. This provides new insights for developing a more inclusive and adaptive leadership theory to the dynamics of globalisation and workforce diversity.

### Managerial implications

The results of this study provide important managerial implications for companies, especially in the context of workforce diversity in Indonesia. The non-significant role of ethnicity on LS, BMI and TMT multiculturalism confirms the importance of developing competency-based leadership skills, such as making decisions, communicating and building effective team coordination. In an increasingly global and multicultural business environment, companies must encourage an inclusive and adaptive leadership approach. Leadership training programmes can focus on developing transformational and inclusive leadership, which are effective in improving team and organisational performance across cultural contexts. In addition, leaders need to be provided with insight into how to manage culturally diverse teams to maximise potential and collaboration within the organisation.

Another implication of this study is the importance of building an organisational culture based on professionalism and meritocracy. By adopting a performance-based management system, companies can ensure that promotions are based on individual achievement and leadership decisions contribute to the organisation. This will increase employee motivation and create a fairer, results-oriented work environment. In addition, in the context of TMT multiculturalism, companies with management teams with diverse cultural backgrounds must manage these differences effectively. Diversity in TMT can be a strength for a company if managed well, especially in strategic decision-making and innovation. Therefore, companies must adopt management strategies that support open communication, cross-cultural collaboration and effective conflict-resolution mechanisms so that diversity in leadership can have a positive influence on organisational performance.

Overall, the results of this study indicate that companies should focus on creating a competency-based leadership environment, adopting inclusive leadership practices and managing diversity with a strategic approach. In this way, organisations can ensure that leadership truly improves company performance, without being limited by cultural or ethnic factors.

### Conclusion

This study examined the influence of LS, BMI and TMT multiculturalism on FP by considering ethnic differences as a factor that has the potential to moderate the relationship. The results of the MGA showed that there was no significant difference in the relationship between variables across the various ethnic groups. This indicates that companies' leadership effectiveness and team performance are more influenced by managerial competence and strategy than by individual ethnic background. This finding is in line with the development of modern management science which is increasingly based on competence and meritocracy. Globalisation and standardisation of management practices have also encouraged the adoption of more inclusive and adaptive LSs, thereby reducing the influence of cultural or ethnic factors in determining leadership effectiveness in an organisation. The theoretical implications of this study confirm that cultural diversity is not always a differentiating factor in leadership effectiveness and company performance. From a managerial perspective, the results of this study emphasise the importance of a leadership approach based on professionalism, meritocracy and management strategies that support cross-cultural communication and collaboration in organisations.

Overall, this study contributes to understanding the relationship between leadership, TMT multiculturalism and corporate performance in a multicultural context. With no significant differences found across ethnic groups, companies can place greater emphasis on competency-based leadership policies and practices, thereby creating a more inclusive, productive, and goal-oriented work environment.

## Limitations and future research direction

This study has several limitations that need to be considered in interpreting the results and developing them in the future. Firstly, this study only considered ethnic differences as a moderating factor in the relationship between LS, BMI, TMT multiculturalism and FP. However, other factors such as organisational culture, communication style and leadership experience can also moderate this relationship but have not been analysed in this study. Future studies can expand the model by including additional variables to understand better how cultural and organisational environment factors influence leadership effectiveness and FP. Secondly, this study used data from companies in one region, which may not fully reflect business conditions in other regions or different industries. The business context, regulations and market dynamics in different regions or industry sectors may produce different results. Therefore, future research can expand the sample coverage to different regions or industries to see if these findings remain consistent in a broader context. Thirdly, this study used a quantitative approach with survey-based data analysis. Although this method provides an objective picture of the relationship between variables, it does not delve deeply into how leadership processes and team dynamics occur in everyday practice. Future studies can combine quantitative methods with qualitative approaches, such as interviews or case studies, to gain more comprehensive insights into the mechanisms underlying the relationship between leadership, TMT multiculturalism and FP. Fourthly, this study was conducted in the context of Indonesian culture which has its own social and cultural characteristics. Therefore, generalisation of the results of this study to other countries with significant cultural differences should be done with caution. Future studies can conduct cross-country comparisons to identify how national cultural factors influence the relationship between leadership and corporate performance in a global context.

Considering these limitations, future research is expected to provide broader and deeper insights into the factors that influence leadership effectiveness and corporate performance, as well as how organisations can manage cultural diversity more effectively in an increasingly complex and dynamic business environment.

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### Authors' contributions

All authors have contributed in writing according to the writing contribution statement. R.P.S. contributed to conceptualisation, formal analysis, writing the original draft, project administration, data curation, writing

(review & editing) and funding acquisition. M.M. was involved in conceptualisation, visualisation, validation, resources, writing (review and editing) and supervision. N.F.H. contributed to conceptualisation, writing the original draft, validation, data curation and funding acquisition. T.W. conducted methodology, investigation, visualisation and data curation.

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### Data availability

The data that support the findings of this study are available from the corresponding author, M.M. upon reasonable request.

### Disclaimer

The views and opinions expressed in this article are those of the authors and are the product of professional research. They do not necessarily reflect the official policy or position of any affiliated institution, funder, agency or that of the publisher. The authors are responsible for this article's results, findings and content.

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