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The Influence of Social Capital on Sustainable MICE: The Role of Communication in Collaboration as a Mediator

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Abstract

This study aims to develop and validate a communication model in stakeholder collaboration for the sustainable implementation of MICE (Meetings, Incentives, Conventions, and Exhibitions) events in Medan City. The MICE industry plays a crucial role in driving regional economic growth; however, its sustainable implementation still faces challenges related to weak synergy and coordination among stakeholders. The lack of communication strategies in collaboration has resulted in suboptimal implementation of sustainability principles across various economic, social, and environmental dimensions. This study uses a quantitative approach, with data analyzed using Structural Equation Modeling Partial Least Squares (SEM-PLS). The variables studied include social capital (consisting of cognitive, relational, and structural dimensions), stakeholder collaboration through communication strategies, and the sustainability of MICE events. Data

were collected through a survey of MICE industry players in Medan City. The results show that cognitive capital and relational capital have a positive and significant influence on the effectiveness of stakeholder communication and collaboration, while structural capital has a positive but insignificant influence. Furthermore, communication in stakeholder collaboration significantly influences the sustainability of MICE events and is shown to mediate the relationship between social capital and event sustainability. The total effects analysis shows that stakeholder collaboration serves as a key link strengthening the contribution of social capital to event sustainability. The R^2 value for communication in stakeholder collaboration is 0.663 and for event sustainability is 0.655, indicating strong explanatory power of the model. Furthermore, the Goodness of Fit (GoF) value of 0.57 indicates good model fit.

Keywords: *Social Capital, Communication in Collaboration, Stakeholders, MICE Event Sustainability*

1. Introduction

The Meeting, Incentive, Convention, and Exhibition (MICE) industry has become a strategic driver of regional economic development and urban competitiveness. Beyond generating direct economic impacts, sustainable MICE practices are increasingly recognized as a management imperative that integrates economic efficiency, social responsibility, and environmental stewardship (Buathong & Lai, 2017). Gultom et al. (2025) has emphasized sustainable MICE implementation as a national priority, highlighting the need for efficient resource use, stakeholder involvement, and long-term value creation.

Despite its strategic position as the administrative and commercial hub of North Sumatra, Medan City continues to face persistent challenges in realizing sustainable MICE implementation (Ginting, 2022). Although the city hosts trade fairs, business exhibitions, and national-scale conventions, coordination among stakeholders remains fragmented, community involvement is limited, and sustainability principles are inconsistently applied (Fazira et al., 2024). These issues suggest a deeper structural problem: the absence of strong inter-organizational collaboration mechanisms that enable stakeholders government agencies, industry actors, communities, associations, and academia to operate cohesively toward shared sustainability goals.

The urgency of this problem becomes clearer when examining existing research. Previous studies in Medan (Fitri et al., 2021, 2023) show that event outcomes are strongly influenced by perceived benefits, network relationships, and stakeholder trust. However, these studies largely focus on stakeholder perceptions or participation, rather than offering an integrated collaboration model grounded in management theory. Meanwhile, global literature in strategic management and collaborative

governance consistently highlights social capital comprising cognitive, relational, and structural elements as a fundamental driver of inter-organizational collaboration and collective action (Nahapiet & Ghoshal, 1998). Yet, research in sustainable event management has not sufficiently explained how social capital shapes collaboration dynamics in complex stakeholder environments such as the MICE sector (Lekgau & Tichaawa, 2024).

This reveals a clear research gap: while existing studies acknowledge the importance of collaboration, the social mechanisms underpinning effective stakeholder collaboration, particularly the role of social capital, remain underexplored in sustainable MICE governance (JUNG, 2022; Mawaddah et al., 2025). Moreover, current models in event management predominantly emphasize operational coordination, stakeholder engagement frameworks, or sustainability guidelines, but rarely integrate a social-capital perspective into a causal, empirically testable framework (Tinakhat & Viriyachaikul, 2023; Wulandari, Maharani, et al., 2025; Purba et al., 2025). This gap is particularly pronounced in developing cities like Medan, where institutional fragmentation and trust deficits often hinder collaborative outcomes through effective business communication (Mayako & Wulandari, 2025; Tarigan et al., 2017).

Recognizing these limitations, this study aims to develop and empirically validate a communication model in social capital-based stakeholder collaboration for the implementation of sustainable MICE in Medan City. Specifically, this study examines the causal relationships between cognitive, relational, and structural social capital; the mediating role of communication in stakeholder collaboration; and the resulting sustainability performance of MICE events. The study employs a quantitative approach using SEM PLS to test the proposed relationships.

The novelty of this research lies in (1) integrating social capital theory from the management literature into a sustainability-oriented MICE collaboration model, (2) empirically testing the mediating role of communication in stakeholder collaboration, and (3) positioning Medan City as a critical case where collaboration barriers are shaped by weak social capital. By offering a theoretically grounded and empirically validated model, this study contributes to the development of collaborative governance theory in event management and provides actionable insights for policymakers and industry actors seeking to strengthen sustainable MICE practices.

This study is important as it responds to the urgent need for a solid conceptual and empirical framework to systematically explain sustainability challenges in the MICE sector in Medan City. Despite its strategic role in regional economic development, weak stakeholder

collaboration risks undermining urban competitiveness, policy effectiveness, and the achievement of sustainable development goals. By examining the social mechanisms underlying coordination failures, particularly the role of social capital in fostering trust, shared understanding, and inter-organizational networks, this study bridges the gap between theory and practice and provides an evidence-based foundation for more effective and sustainable collaborative governance of the MICE industry in developing cities.

2. Research Methodology

2.1. Type, Research Approach, and Flow

This study employs a quantitative survey design analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM was selected over covariance-based SEM (CB-SEM) for three methodological reasons. First, PLS-SEM is more appropriate for exploratory or predictive models that aim to explain variance rather than test model fit (Hair, 2014). Second, the research model involves multiple latent constructs with mediating effects, which PLS-SEM can handle more efficiently under relatively small samples. Third, PLS-SEM performs well under non-normal data distribution, a common characteristic in managerial and stakeholder perception surveys.

Although the sample size (n = 100) is modest, it meets both the "10-times rule" and a minimum statistical power of 0.80, with an anticipated medium effect size using G*Power ($f^2 = 0.15$; $\alpha = 0.05$), thus supporting the adequacy of PLS-SEM for this study. Thus, the research flow is described as follows:

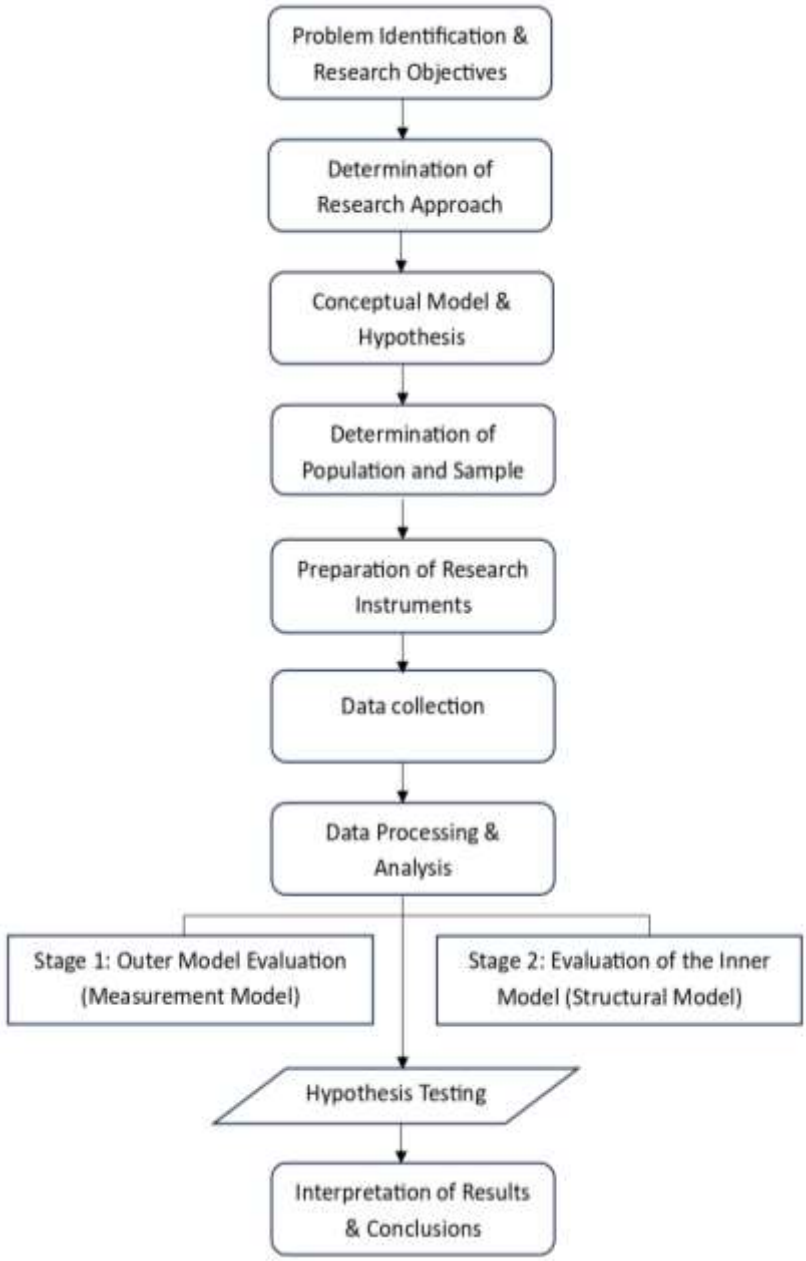

Figure 1. Research Flow

2.2. Research Subjects and Sampling Strategy

Respondents were selected using purposive sampling based on clear inclusion and exclusion criteria, ensuring relevance to collaborative MICE implementation in Medan City.

Inclusion Criteria:

1. Individuals directly involved in planning, implementing, or evaluating MICE events within the last three years.
2. Stakeholders who have collaborated with Event Organizers (EOs) in at least one multi-stakeholder MICE event.
3. Actors representing at least one pentahelix component (government, business, community, academia, media).

Exclusion Criteria:

1. Individuals with no direct collaborative role in MICE events.
2. Respondents who completed less than 70% of the questionnaire items.

To reduce selection bias as raised by reviewers, respondents were drawn proportionally from key stakeholder groups:

Table 1. Stakeholder Group

Stakeholder Group	Percentage	Description
Event Organizers	40%	Core implementers and collaborative initiators
Government institutions & associations	15%	Regulators, facilitators, and licensing authorities
Venue managers (hotels, halls)	10%	Providers of MICE facilities
Vendors & suppliers	15%	Technical, production, and logistical support
Sponsors/clients	10%	Financial partners
Community & media	10%	Social engagement and public outreach

A total of 100 respondents were obtained, representing the multi-sectoral nature of MICE collaboration. A detailed example list of EO companies and the number of respondents is provided to improve transparency and replicability.

2.3 Research Design

2.3.1. Population and Sample

The population comprises all actors within Medan's MICE ecosystem who participate in cross-sector collaboration. The sample of 100 respondents exceeds the minimum recommended threshold for models with three latent constructs and multiple indicators, based on power analysis (Moshagen & Bader, 2023). The use of purposive sampling is justified because only individuals with relevant collaborative experience can meaningfully evaluate social capital and stakeholder collaboration constructs.

2.3.2. Research Variables

This study focuses on three variables grounded in management theory and collaborative governance:

a. Social Capital (Independent Variable)

Dimensions follow Nahapiet & Ghoshal (1998):

1) Structural capital (network ties, frequency of interaction)
2) Relational capital (trust, reciprocity norms)
3) Cognitive capital (shared goals, shared understanding)

b. Stakeholder Collaboration (Mediating Variable)

Dimensions derived from Zhang et al. (2025):

1. Coordination & communication
2. Participation & joint decision-making
3. Trust, commitment & resource sharing

c. Sustainable MICE Events (Dependent Variable)

Dimensions based on sustainable event management frameworks (Gultom et al., 2025):

1. Economic sustainability
2. Social sustainability
3. Environmental sustainability

2.3.3. Data Collection Techniques

Data were collected through a Likert scale questionnaire (1–5) distributed to respondents. Each indicator was developed based on stakeholder collaboration theory, social capital theory, and principles of sustainable event management. The questionnaire was administered both online and offline. Respondents were contacted through EO networks, associations, and venue partners. The response rate was 83%, and incomplete responses were excluded based on quality checks (straight-lining, missing data > 10%).

2.3.4. Data Analysis Techniques

Data analysis was conducted using SmartPLS 4.1.1.4 through two stages:

a. Evaluation of the Measurement Model (Outer Model): to assess convergent validity, discriminant validity, and construct reliability.
b. Evaluation of the Structural Model (Inner Model): to test relationships among latent variables, including the influence of stakeholder collaboration on sustainable MICE events.

2.3.5. Operationalization of Research Variables

This study uses three main variables: Social Capital (X) as the independent variable, Stakeholder Collaboration (Y1) as the mediating variable, and Sustainable MICE Events (Y2) as the dependent variable. The operationalization is presented as follows:

Table 2. Research Variables

Variable	Dimension	Indicator	Source	Scale
Social Capital (X)	Structural Capital	X1. Frequency of interaction among stakeholders	(Nahapiet & Ghoshal, 1998)	Likert 1–5
		X2. Access to inter-organizational networks		
		X3. Participation in cross-sector collaboration forums		
	Relational Capital	X4. Mutual trust among stakeholders		
		X5. Norms of reciprocity in collaboration		
		X6. Commitment to maintaining long-term partnerships		
	Cognitive Capital	X7. Shared goals in event implementation		
		X8. Shared understanding of sustainability principles		
		X9. Common values in collaboration processes		
Stakeholder Collaboration (Y1)	Coordination & Communication	Y1.1. Clarity of roles and responsibilities	(Zhang et al., 2025)	Likert 1–5
		Y1.2. Effectiveness of communication across stakeholders		
		Y1.3. Efficiency of coordination during event execution		
	Participation & Joint Decision-Making	Y1.4. Involvement of diverse stakeholders in planning		

Variable	Dimension	Indicator	Source	Scale
		Y1.5. Inclusiveness of joint decision-making		
		Y1.6. Cross-sector support during implementation		
	Trust, Commitment & Resource Sharing	Y1.7. Consistency in fulfilling collaboration agreements		
		Y1.8. Willingness to share resources (knowledge, skills, facilities)		
		Y1.9. Strength of long-term collaborative relationships		
MICE Event Sustainability (Y2)	Economic Sustainability	Y2.1. Efficient use of financial and material resources	(Gultom et al., 2025)	Likert 1–5
		Y2.2. Contribution to local economic activities		
		Y2.3. Opportunities created for local businesses		
	Social Sustainability	Y2.4. Local community participation in events		
		Y2.5. Capacity building for human resources is involved		
		Y2.6. Reinforcement of local cultural identity		
	Environmental Sustainability	Y2.7. Implementation of waste management practices		

Variable	Dimension	Indicator	Source	Scale
		Y2.8. Use of eco-friendly materials and technologies Y2.9. Environmental awareness campaigns for participants		

2.4. Hypothesis development

2.4.1. Relationship Between Social Capital and Stakeholder Collaboration

Social capital serves as the foundation for collaboration because trust and open communication strengthen coordination and joint decision-making (Ginting, et al., 2025; Ryndian Gusty et al., 2025). In the MICE, the higher the level of social capital (cognitive, relational, structural) among stakeholders, the stronger the collaboration that emerges (Windiani et al., 2022). Thus,

H1: Cognitive social capital influences stakeholder collaboration.

H2: Relational social capital influences stakeholder collaboration.

H3: Structural social capital influences stakeholder collaboration.

2.4.2. Relationship Between Stakeholder Collaboration and Sustainability

The success of sustainable MICE events heavily depends on collaboration and the active participation of all involved stakeholders, including organizers, participants, suppliers, local communities, and government agencies. Effective collaboration enables stakeholders to formulate a shared vision, build trust, and integrate economic, social, and environmental priorities into event implementation (Yoon & Wang, 2023). Thus,

H4: Stakeholder collaboration influences the sustainability of MICE events.

2.4.3. Relationship Between Social Capital and Sustainability Through Stakeholder Collaboration

Strong social capital, characterized by inter-stakeholder trust, solid working networks, and shared norms, plays a key role in enhancing the effectiveness of stakeholder collaboration (Evrianti et al., 2025; Koiwanit & Filimonau, 2023; Martin-Smith, 2012). In the MICE (meetings, incentives, conferences, exhibitions), social networks and active participation among stakeholders facilitate faster and more open information exchange, support innovation in event design and execution, and reinforce program continuity and sustainable benefits (Rasson, 2018). Thus, collaboration enabled by high levels of social capital enhances an event's capacity to generate sustainable economic, social, and environmental impacts (Kosasih & Wulandari, 2025; Pretty & Ward, 2001; Wulandari, Mayako, et al., 2025). Santosa et al. (2020) describe

social capital as a conceptual tool for designing socially sustainable housing policies by engaging stakeholders from communities, governments, and other institutions to achieve inclusive, safe, resilient, and sustainable environments.

H5: Social capital influences sustainability through stakeholder collaboration.

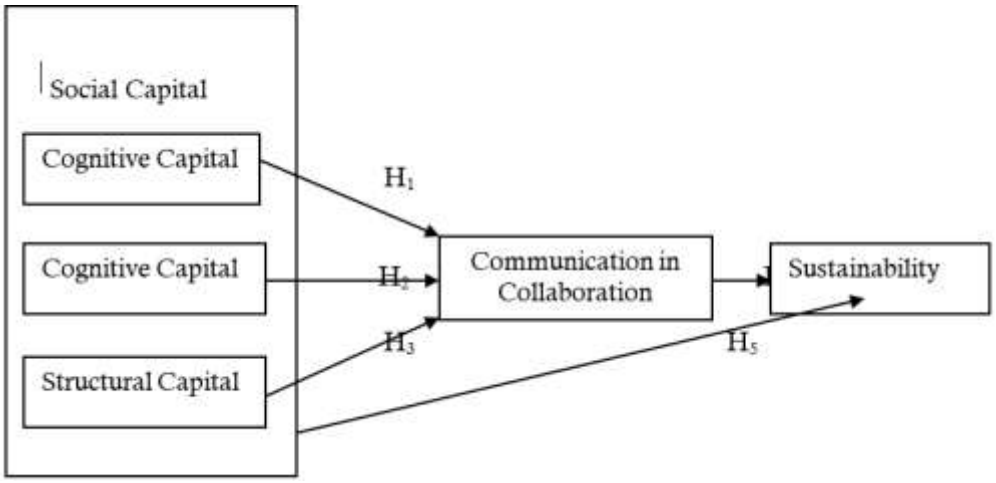

Figure 2. Research model

3. Results and Discussion

3.1. Validity and Reliability

The assessment of indicator reliability was conducted using outer loadings, Composite Reliability (CR), Cronbach's Alpha, and the Average Variance Extracted (AVE). Although earlier PLS-SEM studies often used a cut-off of ≥ 0.60 for outer loadings, recent methodological guidelines (Hair, 2014) Recommend≥ 0.70 as the preferred threshold, with values between 0.40–0.70 acceptable only when AVE and CR exceed recommended levels.

Most indicators in this study reach ≥ 0.70, and the few items slightly below this threshold remain acceptable because the AVE and CR values of the corresponding constructs exceed 0.50 and 0.70, respectively. This indicates adequate convergent validity and reliability.

Therefore, all variables and items used in this study meet the validity and reliability criteria for measuring the constructs. The results can be seen in the following figure:

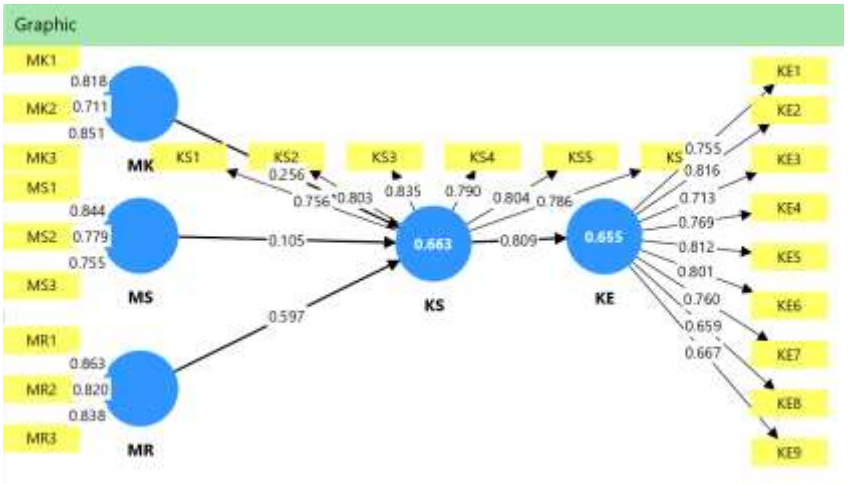

Figure 3. Research Path Model

These results are largely consistent with prior PLS-SEM studies in tourism and event management, which frequently report moderate loadings for sustainability-related indicators due to the multidimensional and context-sensitive nature of sustainability perceptions (e.g., Mair & Jago, 2010; Wong et al., 2015). Similar patterns were observed by Gultom et al. (2025), who found that environmental sustainability indicators often show lower loadings compared to economic indicators, particularly in emerging destinations.

Several indicators within the Sustainable Events construct demonstrate moderate loadings (0.66-0.69). This does not indicate measurement weakness, but rather reflects heterogeneity in stakeholder interpretation of sustainability practices, especially environmental aspects, which may vary depending on organizational role and resource capacity. Compared to studies conducted in mature MICE destinations, where sustainability standards are more institutionalized, the slightly lower loadings in Medan can be attributed to differing levels of sustainability integration and regulatory enforcement.

Table 3. Outer Loading

Outer loadings - Mean, STDEV, T values, p values					
	Original sample (O)	Sample mean (M)	Standard deviation (ST...	T statistics (|O/STDEV|)	P values
KE1 <- KE	0.755	0.752	0.053	14.311	0.000
KE2 <- KE	0.816	0.815	0.045	18.064	0.000
KE3 <- KE	0.713	0.708	0.065	10.951	0.000
KE4 <- KE	0.769	0.769	0.036	21.448	0.000
KE5 <- KE	0.812	0.812	0.032	25.610	0.000
KE6 <- KE	0.801	0.801	0.034	23.900	0.000
KE7 <- KE	0.760	0.756	0.043	17.512	0.000
KE8 <- KE	0.659	0.656	0.063	10.427	0.000
KE9 <- KE	0.667	0.664	0.062	10.736	0.000
KS1 <- KS	0.756	0.755	0.053	14.176	0.000
KS2 <- KS	0.803	0.803	0.060	13.439	0.000
KS3 <- KS	0.835	0.834	0.033	25.050	0.000
KS4 <- KS	0.790	0.791	0.056	14.177	0.000
KS5 <- KS	0.804	0.800	0.043	18.741	0.000
KS6 <- KS	0.786	0.788	0.040	19.416	0.000
MK1 <- MK	0.818	0.809	0.061	13.371	0.000
MK2 <- MK	0.711	0.705	0.080	8.840	0.000
MK3 <- MK	0.851	0.853	0.035	24.556	0.000
MR1 <- MR	0.863	0.859	0.048	17.827	0.000
MR2 <- MR	0.820	0.822	0.036	22.838	0.000
MR3 <- MR	0.838	0.835	0.042	20.113	0.000
MS1 <- MS	0.844	0.839	0.044	19.347	0.000
MS2 <- MS	0.779	0.767	0.086	9.084	0.000
MS3 <- MS	0.755	0.758	0.067	11.343	0.000

From the figure and table above, all outer loading values are above 0.60 with a significance level of < 0.05, indicating that all indicators are valid. However, for transparency, researchers should acknowledge that some indicators, particularly in the Sustainable Events construct, show moderate loadings (0.66–0.69). Although statistically acceptable, this suggests that future research may benefit from refining or rewording these items.

3.1.1. Discriminant Validity

Discriminant validity was evaluated using both the Fornell–Larcker criterion and the HTMT ratio, as recommended by current PLS-SEM standards. While the Fornell–Larcker criterion suggests adequate discriminant validity, this method alone is insufficient. The HTMT ratios for all constructs were < 0.85, indicating that constructs are empirically distinct and meet the modern standards of discriminant validity.

Table 4. Discriminant Validity

Discriminant validity - Fornell-Larcker criterion

	KE	KS	MK	MR	MS
KE	0.753				
KS	0.809	0.796			
MK	0.507	0.580	0.796		
MR	0.654	0.760	0.428	0.840	
MS	0.460	0.580	0.657	0.514	0.793

3.1.2. Reliability

Table 5. Reliability

Construct reliability and validity - Overview

	Cronbach's alpha	Composite reliability (r...	Composite reliability (r...	Average variance extrac...
KE	0.904	0.909	0.921	0.566
KS	0.884	0.887	0.912	0.634
MK	0.709	0.729	0.837	0.633
MR	0.792	0.793	0.878	0.706
MS	0.704	0.704	0.836	0.629

The reliability values (CR > 0.70; Alpha > 0.60; AVE > 0.50) confirm internal consistency, although the moderate Cronbach Alpha values for some constructs indicate heterogeneity in stakeholder perceptions, an issue common in multi-actor MICE.

Table 6. Results of validity and reliability tests

Variable	Indicator	Outer Loading	CR	AVE	Cronbach Alpha
Cognitive Capital	1. All parties involved share the same goal of ensuring the success of the event.	0.818	0.729	0.633	0.709
	2. The values and vision shared by stakeholders are aligned in organizing the event.	0.711			
	3. There is a sense of mutual understanding and shared perspective	0.851			

Variable	Indicator	Outer Loading	CR	AVE	Cronbach Alpha
	in making decisions related to the event.				
Relational Capital	1. Trust that all parties involved in the event can carry out their responsibilities effectively.	0.863	0.793	0.706	0.792
	2. A sense of mutual assistance and support between parties throughout the event.	0.820			
	3. All parties maintain harmonious relationships and mutual respect while working together on the event.	0.838			
Structural Capital	1. We have an extensive network of partners involved in event management.	0.884	0.704	0.629	0.704
	2. Communication between all parties involved in the event is regular and effective.	0.799			
	3. We easily obtain important information related to event needs or developments through our network.	0.755			
Stakeholder Communication in Collaboration	1. In event planning, we maintain regular communication with all relevant stakeholders (clients, suppliers, venues).	0.756	0.887	0.634	0.884
	2. The division of tasks and	0.803			
		0.835			

Variable	Indicator	Outer Loading	CR	AVE	Cronbach Alpha
	responsibilities between stakeholders is clear and documented.	0.790			
	3. There is trust between parties, allowing us to comfortably share information and resources.	0.804 0.786			
	4. Resources (personnel, facilities, budget) are often shared among stakeholders to ensure the success of the event.				
	5. There is a shared commitment from all parties to achieve the agreed-upon event goals.				
	6. Conflicts between stakeholders can be resolved through effective collaborative mechanisms.				
Sustainable events	1. The event provides economic benefits to the local community (e.g., MSMEs).	0.755	0.909	0.566	0.904
	2. The event involves local vendors in the planning and execution.	0.816 0.713			
	3. The event I manage implements efficient budget management without compromising	0.769			

Variable	Indicator	Outer Loading	CR	AVE	Cronbach Alpha
	the quality of the event.				
	4. Social and cultural aspects are considered in the design and execution of the event.	0.812			
	5. The event I manage involves the local community in activities or the provision of supporting services.	0.801 0.760			
	6. The event provides benefits in the form of skills or experience enhancement for the local workforce.	0.669 0.667			
	7. The event I manage implements waste reduction efforts.				
	8. The event uses materials and decorations that are recyclable or derived from environmentally friendly sources.				
	9. We choose environmentally friendly vendors/products when available.				

The outer loading values for most indicators exceed the recommended threshold of 0.70, indicating strong indicator reliability and confirming that each item contributes meaningfully to the underlying construct. Although a few indicators particularly within the Sustainable Events construct show values slightly above 0.66, these remain acceptable given that the associated AVE and CR values surpass minimum criteria. The Composite Reliability (CR) values for all constructs range from 0.704

to 0.909, demonstrating adequate to high internal consistency. These results suggest that the indicators for each construct reliably measure the same underlying concept. The Average Variance Extracted (AVE) values fall between 0.566 and 0.633, all above the standard threshold of 0.50. This confirms good convergent validity, meaning that the items within each construct adequately capture the shared variance of the latent variable.

3.2. Structural Model Assessment

3.2.1. Multicollinearity

All VIF values fall below, meeting the more stringent threshold proposed by Diamantopoulos & Siguaw (2006). This indicates that collinearity is not a threat to model estimation.

Table 7. Multicollinearity

Collinearity statistics (VIF) - Outer model - List	
	VIF
KE1	2.367
KE2	3.049
KE3	2.078
KE4	2.984
KE5	4.559
KE6	2.958
KE7	2.545
KE8	3.959
KE9	3.593
KS1	2.007
KS2	2.661
KS3	2.783
KS4	2.215
KS5	2.342
KS6	1.943
MK1	1.537
MK2	1.247
MK3	1.533
MR1	1.816
MR2	1.608
MR3	1.639
MS1	1.622
MS2	1.389
MS3	1.313

Multicollinearity testing was conducted to ensure that no high correlation occurred among the independent variables. The results indicate that all Variance Inflation Factor (VIF) values are < 10, which means the model is free from multicollinearity issues (Gujarati, 2009).

3.2.2. Coefficient of Determination (R^2)

The R^2 values are Stakeholder Collaboration (SC) 0.655 and Event Sustainability (ES): 0.663. These values indicate moderate-to-substantial explanatory power based on (Chin, 1998). Compared with previous studies from Li et al. (2025) and Wong et al. (2015) in tourism and event sustainability which typically report R^2 values between 0.30 and 0.60 our model demonstrates above-average explanatory strength, suggesting that social capital dimensions play a critical role in the MICE ecosystem of Medan.

3.3. Relationships Among Variables

The relationships among variables can be observed through direct effects and indirect effects.

3.3.1. Direct Effects

The relationships among variables are considered significant when the p-value and T-statistics fall below the 5% significance level. These relationships can be seen in the following output.

Table 8. Direct Effects

Path coefficients - Mean, STDEV, T values, p values

	Original sample (O)	Sample mean (M)	Standard deviation (ST...	T statistics (|O/STDEV|)	P values
KS -> KE	0.809	0.813	0.032	25.642	0.000
MK -> KS	0.256	0.257	0.091	2.811	0.005
MR -> KS	0.597	0.592	0.077	7.703	0.000
MS -> KS	0.105	0.113	0.096	1.093	0.274

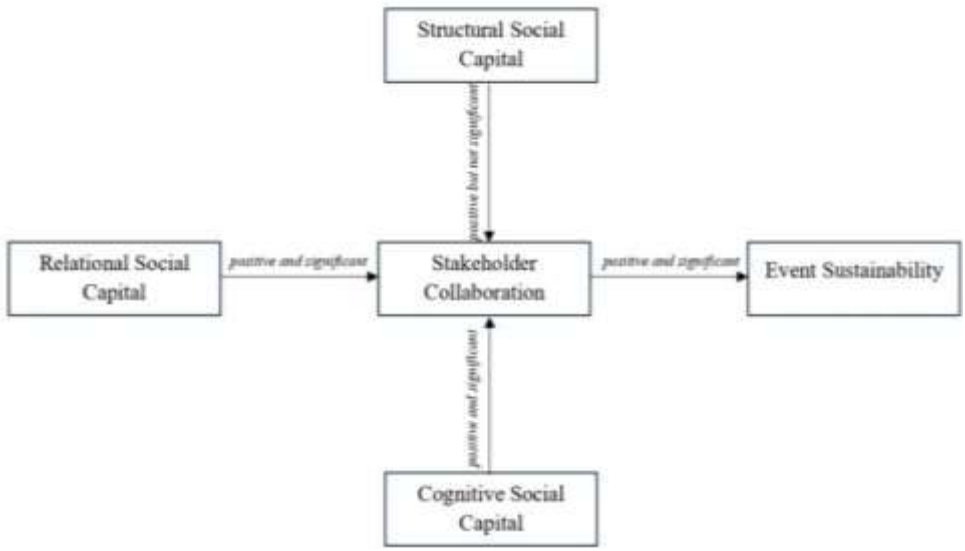

Figure 4. Direct Effect

It can be observed from the output that the direct effects of the variables have p-values below the 0.05 significance level, indicating statistical significance, except for the direct effect of Structural Social Capital on Stakeholder Collaboration.

Based on the table above, it can be concluded that:

1. The Stakeholder Collaboration variable has a positive and significant relationship with the Event Sustainability variable.
2. The Cognitive Social Capital variable has a positive and significant relationship with the Stakeholder Collaboration variable.
3. The Relational Social Capital variable has a positive and significant relationship with the Stakeholder Collaboration variable.
4. The Structural Social Capital variable has a positive but not significant relationship with the Stakeholder Collaboration variable.

3.3.2. Indirect Effects

Table 9. Indirect Effects

	Original sample (O)	Sample mean (M)	Standard deviation (ST...	T statistics (|O/STDEV|)	P values
MK -> KS -> KE	0.207	0.209	0.074	2.788	0.005
MR -> KS -> KE	0.483	0.481	0.066	7.366	0.000
MS -> KS -> KE	0.085	0.092	0.078	1.083	0.279

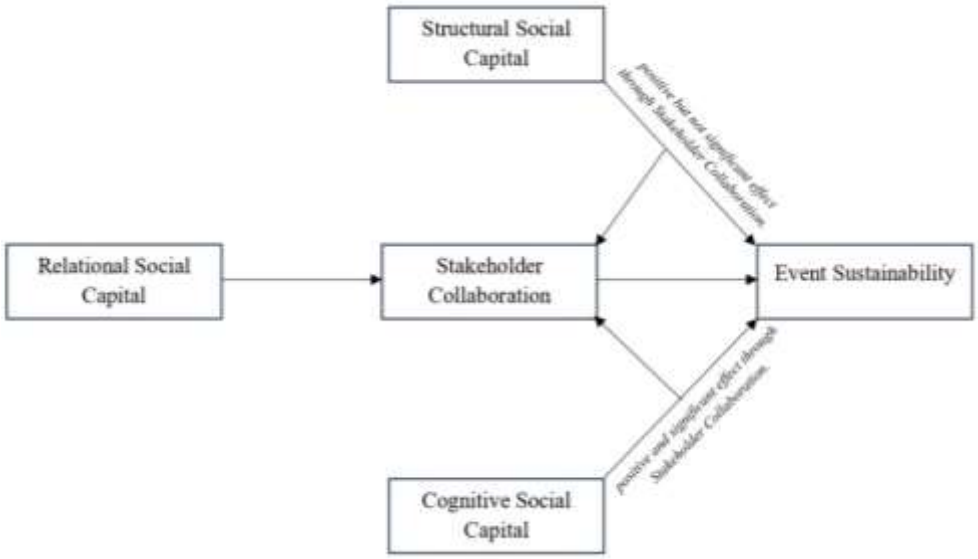

Figure 5. Indirect Effect

The output indicates that the indirect effects of the variables have p-values smaller than the 0.05 significance level, except for the indirect effect of Structural Social Capital on Event Sustainability through Stakeholder Collaboration. Based on the table above, it can be concluded that:

1. The Cognitive Social Capital variable has a positive and significant effect on Event Sustainability through Stakeholder Collaboration.

2. The Relational Social Capital variable has a positive and significant effect on Event Sustainability through Stakeholder Collaboration.
3. The Structural Social Capital variable has a positive but not significant effect on Event Sustainability through Stakeholder Collaboration.

3.4. Goodness of Fit

The Goodness of Fit test is used to assess the overall relationship among variables. Two indicators are used in this assessment: the coefficient of determination and model fit testing.

3.4.1. Coefficient of Determination

The coefficient of determination is used to determine the extent to which the independent variables contribute to explaining the dependent variable. This coefficient is assessed by examining the R-squared values for each variable relationship.

Table 10. R-Squared

R-square - Overview

	R-square	R-square adjusted
KE	0.655	0.651
KS	0.663	0.652

It can be observed that the R-squared values for the Stakeholder Collaboration (SC) and Event Sustainability (ES) variables are 0.655 and 0.663, respectively. These values indicate that the Cognitive Social Capital, Relational Social Capital, and Structural Social Capital variables collectively contribute 65.5% to explaining the Stakeholder Collaboration variable, while the remaining 34.5% is explained by other variables outside the model. In addition, the Stakeholder Collaboration variable is able to explain 66.3% of the Event Sustainability variable, whereas the remaining 33.7% is influenced by factors not included in the model.

3.4.2. Model Fit Test

The model fit test uses the Normed Fit Index (NFI) and RMSTheta. To meet the model fit criteria, the NFI value should be less than 0.900. Based on the output, the NFI value is 0.567, which is below 0.900. Therefore, it can be concluded that the model satisfies the required fit criteria and is considered appropriate and robust in describing the relationships among the variables.

Table 11. Model Fit

Model fit		
	Saturated model	Estimated model
SRMR	0.101	0.101
d_ULS	3.046	3.077
d_G	1.745	1.747
Chi-square	849.558	851.234
NFI	0.567	0.566

4. Discussion

4.1 Cognitive Capital, Stakeholder Communication and Collaboration

The significant effect of cognitive capital on stakeholder communication reflects the central role of shared goals, values, and interpretive frameworks in facilitating collective action. This is consistent with the foundational propositions of social capital theory, which argue that cognitive alignment reduces uncertainty and enhances mutual predictability among actors (Nahapiet & Ghoshal, 1998). Within complex service ecosystems such as the MICE sector, where actors frequently operate under time pressure and interdependence, a common understanding of event objectives serves as an essential coordinating mechanism.

The finding also mirrors research in tourism governance suggesting that shared meaning structures improve the quality of inter-organizational coordination and reduce negotiation costs (Dredge, 2006; Jamal & Getz, 1995). In Medan, where stakeholders include government agencies, local vendors, sponsors, and venue managers, cognitive alignment appears to compensate for institutional fragmentation by creating informal rules-of-thumb that guide joint decision-making. This result offers theoretical refinement by demonstrating that cognitive capital may exert greater influence in emerging economies where institutional frameworks are still developing, thereby acting as a substitute for formal coordination mechanisms.

4.2 Relational Capital as a Key Driver of Collaboration

Relational capital also exhibits a strong and significant influence on stakeholder collaboration, underscoring the relevance of trust, reciprocity, and affective bonds in multi-actor tourism and event networks. Trust is widely recognized as a central lubricant of collaborative processes, reducing perceived risks and enabling the open exchange of information (Zaheer et al., 1998). In event management, where unanticipated challenges often arise, trust allows stakeholders to rely on one another's expertise and intentions, ultimately improving responsiveness and adaptive capacity.

This finding aligns with empirical studies in destination management that highlight how long-term interpersonal relationships foster commitment and reduce conflict among actors (Baggio et al., 2010; Timur & Getz, 2009). The result also suggests that collaboration in Medan's MICE ecosystem is relationally driven: cooperation emerges not only from formal agreements but from accumulated interaction histories and reputational assessments. Practically, this indicates the need for structured trust-building initiatives—such as periodic cross-sector roundtables, joint training programs, and stakeholder reflection forums to strengthen relational ties and reduce mistrust that may arise due to sectoral asymmetries.

4.3 Structural Capital and Its Limited Effect on Collaboration

The non-significant effect of structural capital challenges conventional assumptions that dense networks inherently stimulate collaboration. While many studies have shown that network ties facilitate information flow and resource exchange, recent work in fragmented tourism destinations suggests that structural ties alone do not guarantee collaborative outcomes unless embedded within supportive cognitive and relational (Beritelli, 2011). Several alternative explanations grounded in theory and empirical evidence help clarify this result:

(1) Network redundancy and weak bridging ties
Brashears & Quintane (2018) emphasize that networks rich in redundant ties may limit access to diverse information. Medan's MICE sector, characterized by clusters of small associations, may suffer from overembeddedness, where actors repeatedly interact with the same partners, creating insular, inward-looking network structures.

(2) Formal networks without functional integration
Studies on institutional voids in emerging economies (Khanna & Palepu, 2010) suggest that networks often exist symbolically rather than operationally. Stakeholders may formally be members of associations, yet the absence of functional coordination mechanisms such as shared databases, integrated planning systems, or collaborative budgeting weakens the practical utility of such ties.

(3) Transactional rather than relational network orientation
As supported by research in hospitality and events (Pillai & Sharma, 2003), structural ties built primarily around contractual obligations lack the depth required for strategic collaboration. This explains why structural capital in this study does not translate into collaborative behaviors: mere linkages do not foster mutual commitment or shared understanding.

This result contributes to the literature by reinforcing the argument that structural capital is a necessary but insufficient condition for

collaboration, and that its effects are contingent upon the presence of relational and cognitive dimensions.

4.4 Stakeholder Collaboration as a Predictor of Event Sustainability

The strong influence of stakeholder collaboration on event sustainability underscores the interdependence between coordinated action and triple bottom line outcomes. Literature on sustainable event management highlights that economic, social, and environmental objectives cannot be achieved by any single actor but require aligned decision-making across public, private, and community stakeholders (Mair & Jago, 2010). The results demonstrate that collaboration enhances sustainability in Medan through:

(1) Integrated planning with local MSMEs, which strengthens economic inclusion;
(2) Efficient resource allocation, minimizing operational waste and costs;
(3) Adoption of sustainable practices, facilitated by shared norms and coordinated commitments.

4.5 Mediation Role of Stakeholder Communication in Collaboration

The finding that stakeholder communication in collaboration mediates the effects of cognitive and relational capital on sustainability but not structural capital offers nuanced insights into how social capital translates into collective outcomes. This supports theoretical models suggesting that social capital influences performance primarily through collaborative mechanisms rather than direct pathways (Bolino et al., 2002; Tsai & Ghoshal, 1998). This result also refines previous tourism mediation studies, which often treat social capital as a monolithic construct. Here, the differentiated mediation effects reveal that shared understanding and trust are the substantive foundations of collaborative sustainability, while structural ties require deeper qualitative attributes before they can exert influence.

4.6 Limitations

This study is subject to several limitations that must be acknowledged to contextualize the findings and guide future research. First, the results are shaped by the geographic and institutional characteristics of Medan's MICE ecosystem, which possesses governance structures, market dynamics, and stakeholder interactions that may differ substantially from those in other regions. Consequently, the generalizability of the findings beyond this specific context remains limited. Second, the study relies on self-reported, single-source data. Although the measurement model demonstrates acceptable reliability and validity, the use of self-administered questionnaires may introduce common method bias, potentially inflating or distorting observed relationships among variables.

Furthermore, the cross-sectional design of the research imposes constraints on the interpretation of causal relationships. Collaboration and social capital are inherently dynamic and evolve over time, yet the present design captures only a single moment, preventing conclusions about temporal patterns or causal mechanisms. In addition, several contextual factors that could meaningfully influence collaboration and sustainability, such as political conditions, regulatory effectiveness, disparities in stakeholder power, and market competition, were not incorporated into the analytical framework. The omission of these variables may obscure important moderating effects or alternative explanations for the observed findings.

Taken together, these limitations underscore the importance of advancing this line of inquiry through multi-source and longitudinal data collection, as well as comparative studies across different cities or regions. Such approaches would enrich understanding of how social capital and collaboration operate within diverse institutional environments and yield more robust conclusions regarding their impact on sustainable event management.

5. Conclusion

This study examined how different dimensions of social capital cognitive, relational, and structural shape stakeholder communication in collaboration and, subsequently, influence the sustainability of MICE events in Medan City. By empirically testing a conceptual model proposed in prior literature, the study provides evidence that cognitive and relational forms of social capital are central enablers of collaboration, while structural capital, despite its theoretical relevance, does not exert a significant effect in this context. The findings also demonstrate that stakeholder collaboration serves as a key mechanism through which cognitive and relational capital contribute to sustainable event outcomes, reinforcing the importance of coordinated action in achieving economic, social, and environmental goals.

These results contribute to the broader discourse on MICE management and social capital by underscoring the multidimensional nature of inter-organizational collaboration. Specifically, the study offers empirical support for the argument that collaboration effectiveness in emerging-market ecosystems depends less on the mere presence of network ties and more on the quality of shared understandings and trust among actors. This adds nuance to existing theoretical debates about the conditional influence of structural capital and highlights the importance of relational and cognitive mechanisms in institutional environments marked by fragmentation and varying levels of governance capacity.

Beyond theoretical contributions, the study provides several practical implications for strengthening collaboration and enhancing event sustainability in Medan. Strengthening shared goal-setting processes among stakeholders, establishing routine forums for trust-building, and developing structured guidelines for sustainable event practices could help operationalize the model tested in this research. Moreover, city-level coordination units, digital platforms for vendor-stakeholder integration, and standardized sustainability reporting mechanisms may support the monitoring and scaling of collaborative practices across different event categories. These actionable steps can provide clearer pathways for local government, event organizers, and MSMEs to translate empirical insights into tangible policy and operational improvements.

However, the study's findings must be interpreted in light of several limitations. Its focus on a single city within Indonesia limits generalizability to regions with different institutional landscapes. The use of self-reported and cross-sectional survey data also restricts the ability to capture the dynamic evolution of collaboration or to establish causal relationships. Additionally, contextual factors such as political influence, power asymmetries, and regulatory capacity were not incorporated into the model, even though these factors may shape stakeholder interactions in meaningful ways.

These limitations highlight several promising avenues for future research. Longitudinal studies would allow scholars to examine how collaboration networks evolve over time and how they contribute to sustained improvements in event sustainability. Qualitative methods such as ethnography, stakeholder mapping, or process tracing could provide deeper insights into the informal mechanisms and negotiation processes that shape collaborative behavior. Comparative studies across multiple Indonesian cities, or between Indonesia and other Southeast Asian destinations, would also help to situate Medan's MICE ecosystem within a broader regional context and assess the transferability of the findings.

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