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DEVELOPING A COLLABORATIVE GOVERNANCE MODEL IN BUILDING PARTNERSHIPS MULTI-STAKEHOLDER PARTNERSHIP TO ACHIEVE SUSTAINABLE EDUCATION ECOSYSTEMS

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Abstract

This study aims to develop a Collaborative Governance model in building multi-stakeholder partnerships to realize the sustainability of the education ecosystem in Medan City. The study uses a qualitative approach with a model development orientation. The research focuses on the conditions of collaboration between the government, schools, communities, businesses, and parents; supporting and inhibiting factors of partnerships; mechanisms of coordination, communication, trust, commitment, and role division; and resource integration between stakeholders. Data collection was designed through in-depth interviews, observation, and documentation, while data analysis used the stages of data condensation, data presentation, as well as drawing conclusions and verification. The results of the discussion indicate that the sustainability of the education ecosystem requires synergy from all stakeholders through the division of responsibilities and integrated resource utilization. The main challenges lie in suboptimal coordination, differences in interests, limited resources, and the sustainability of partnerships. The developed model includes five components: actor involvement, coordination and communication, trust and commitment, resource integration, and sustainability evaluation. This model is expected to become a participatory, inclusive, and contextual educational governance framework in strengthening multi-stakeholder partnerships in Medan City.

Keywords:Collaborative Governance; Multi-Stakeholder Partnership; Education Ecosystem; Resource Integration; Educational Sustainability

INTRODUCTION

Education is a strategic sector in human resource development, playing a crucial role in improving the quality of life, strengthening competitiveness, and supporting sustainable development. The success of education delivery is determined not only by the quality of learning, the competence of educators, and the availability of infrastructure, but also by institutional governance and the involvement of various stakeholders. Facing increasingly complex social, economic, and technological developments, education can no longer be viewed solely as the responsibility of the government and schools, but rather requires the active involvement of the community, the business world, and parents in building an inclusive and sustainable education ecosystem.

Medan, the capital of North Sumatra Province, presents its own challenges in providing education. The diverse characteristics of urban communities, both in terms of social, economic, cultural, and welfare aspects, demand the availability of an adaptive education system capable of meeting community needs. Based on data from the Medan City Central Statistics Agency in the publication Medan City in Figures 2025, the number of educational units in Medan City indicates the large need for education management involving various resources and stakeholders. Furthermore, educational indicators such as the Net Participation Rate (APM) in 2024 show differences in participation across educational levels, namely around 94.9% at the elementary school level, 82.4% at the junior high school level, and 74.4% at the senior high school level. This condition indicates that sustainable access to education still requires attention, particularly in ensuring students can continue their education to a higher level.

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Table 1.1 Data on educational development in Medan City

Educational level	Number of schools	Number of teachers	Number of students
Elementary School	880	12,999	204,977
JUNIOR HIGH SCHOOL	397	6,216	102,304
SENIOR HIGH SCHOOL	215	4,257	72,778
Vocational School	140	3,170	50,469
Total	1,632	26,642	430,528

Source: BPS Medan City, Medan City in Figures 2025, data for the 2024/2025 academic year.

Based on Table 1, Medan City has 1,632 educational institutions at the elementary, middle, high, and vocational high school levels, with a total enrollment of 430,528 students. This large number of educational institutions and students demonstrates that education delivery requires strong institutional coordination and resource support from various stakeholders. The government and schools require support from the community, the business world, and parents to strengthen service quality, develop student competencies, and ensure the sustainability of educational programs.

Table 1.2. Net Enrollment Rate (APM) of Medan City in 2024

Educational level	APM (%)
Elementary School (SD)	94.9
Junior High School (SMP)	82.4
Senior High School (SMA)	74.4

Source: Medan City RPJMD 2025–2029.

Table 2 shows differences in educational participation rates by level. The NER at the elementary school level was 94.9%, then decreased to 82.4% at the junior high school level and 74.4% at the senior high school level. This decline indicates the challenges in maintaining sustainable educational participation, particularly during the transition to secondary education. This situation demonstrates the importance of the involvement of parents, the community, the government, and other parties in creating an educational environment that supports student sustainability.

Educational challenges in Medan City are not only related to access and quality of learning, but also to how to build synergy among stakeholders to support the implementation of education. The government has the authority to set policies and provide resources, schools play a primary role in implementing the educational process, the community provides social support, the business sector has the potential to support the development of students' skills and competencies, and parents have the responsibility to support their children's academic and character development. However, the presence of these various actors does not automatically result in integrated education governance. Differing interests, limited communication, suboptimal coordination, unclear role allocation, and partnerships that tend to be incidental can hinder sustainable collaboration.

These conditions demonstrate that educational development requires a governance approach that not only positions the government as the primary actor but also provides space for participation by all stakeholders through structured collaborative mechanisms. One relevant approach is Collaborative Governance, a collaborative governance system that emphasizes the involvement of government and non-government actors in decision-making, program implementation, and the achievement of shared goals. In the educational context, this approach fosters partnerships between schools, government, communities, businesses, and parents through communication, trust, commitment, shared responsibility, and shared resource utilization.

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Table 1.3. Distribution of School Participation of the Population Aged 7–23 Years in Medan City in 2024

Educational status	Percentage (%)
Not/never attended school	Around 0
Elementary School/Islamic Elementary School	29.16
Junior High School/Islamic Junior High School	16.05
High School/Vocational School/Islamic High School	18.76
College	5.19
Not going to school anymore	23.89

Source: BPS Medan City, Medan City Regional Statistics 2025

The data shows that 23.89% of the population aged 7–23 are no longer attending school. This figure should be interpreted in its entirety and should not be directly interpreted as the dropout rate, as this age group also includes those who have completed their education. Nevertheless, this data demonstrates the importance of continued support from family, community, and educational institutions in ensuring access to and sustainability of education.

Although the concept of collaboration has been widely used in studies of governance and public services, the development of a Collaborative Governance model that specifically integrates the five main actors in education as a strategy to realize the sustainability of the education ecosystem remains an important research area. The novelty of this research lies in the development of a multi-stakeholder partnership model that positions collaboration not merely as a form of inter-institutional coordination, but as a governance mechanism that integrates the roles, interests, resources, and responsibilities of schools, government, communities, businesses, and parents. This model is expected to strengthen the sustainability of institutions, social, and educational programs through a directed and sustainable partnership system.

The underlying principle of this research stems from the fact that education delivery in Medan involves numerous educational institutions and students with increasingly complex needs. Educational success cannot rely solely on the role of the government and schools; it also requires the involvement of the community, the business world, and parents as strategic partners. However, the presence of these various stakeholders needs to be integrated through targeted governance to prevent sectoral and partial implementation. Therefore, the development of a collaborative governance model is necessary to unite the interests, roles, resources, and responsibilities of all actors in building multi-stakeholder partnerships to achieve a sustainable education ecosystem in Medan.

The following is a mapping of aspects that need to be studied to identify the needs for developing Collaborative Governance.

Table 1.4. Mapping the Needs for Multi-Stakeholder Partnerships in the Medan City Education Ecosystem

Stakeholders	Strategic role	Aspects that need to be studied
Government	Regulator, facilitator and policy provider	Policy coordination and support
School	Main implementer of education	Institutional openness and partnership
Public	Social support and supervision	Community participation
Business world	Resource support and competency development	Partnership and program sustainability
Parent	Student mentoring and supervision	Parental communication and involvement

Source: Development of a research analysis framework based on the concept of Collaborative Governance.

Table 4 shows that each stakeholder has a distinct but complementary function in the provision of education. Therefore, a mechanism is needed to connect all these actors through communication, coordination, trust, commitment, and shared responsibilities. These aspects form the basis for identifying the need to develop a collaborative governance model in Medan City.

This research is crucial because educational sustainability is determined not only by government policy and school capacity, but also by the effectiveness of collaboration between all stakeholders. The lack of integration between the government, schools, communities, businesses, and parents has the potential to lead to siloed educational programs, limited resource support, and less than optimal partnership sustainability. Therefore, a collaborative governance model is needed that can build coordination, trust, commitment, role allocation, and sustainable resource

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integration. The results of this study are expected to produce a participatory, inclusive, and adaptive educational governance model suited to the characteristics of Medan City.

Based on this description, this study aims to develop a collaborative governance model for building multi-stakeholder partnerships to achieve a sustainable education ecosystem in Medan City. This research is expected to provide theoretical contributions to the development of collaborative governance in the education sector, as well as practical contributions in producing a participatory, adaptive, and sustainable partnership model for local governments and educational institutions.

Identification of problems

Based on the research background regarding the Development of a Collaborative Governance Model in Building Multi-Party Partnerships to Realize the Sustainability of the Education Ecosystem in Medan City, several problems can be identified as follows:

1. Multi-party collaboration between the government, schools, communities, the business world, and parents in supporting the implementation of education in Medan City is not yet optimal.
2. The roles and responsibilities of stakeholders in building targeted, systematic and sustainable educational partnerships have not been integrated.
3. Coordination and communication between stakeholders still need to be strengthened so that education programs do not run in a sectoral and partial manner.
4. The suboptimal utilization of multi-party resources, whether in the form of funding, facilities, knowledge, technology, or social support for educational development.
5. The lack of strong commitment and trust between stakeholders in building long-term cooperation to support the sustainability of the education ecosystem.
6. There is no integrated and contextual Collaborative Governance model to optimize partnerships between schools, government, communities, businesses, and parents in realizing the sustainability of the education ecosystem in Medan City.

Formulation of the problem

Based on the identification of the problem, the formulation of the problem in this research is:

1. What is the existing condition of collaboration between the government, schools, communities, the business world, and parents in supporting the sustainability of the education ecosystem in Medan City?
2. What are the supporting and inhibiting factors in building multi-stakeholder partnerships to realize the sustainability of the education ecosystem in Medan City?
3. What are the mechanisms for coordination, communication, trust, commitment, and division of roles between stakeholders in implementing educational collaboration?
4. How can the integration of resources and contributions of each stakeholder be optimized to build sustainable educational partnerships?
5. How to develop an effective and contextual Collaborative Governance model in building multi-stakeholder partnerships to realize the sustainability of the education ecosystem in Medan City?

LITERATURE REVIEW

2.1. Collaborative Governance

Collaborative governance is a governance approach that involves government and non-government actors in decision-making and policy implementation to achieve shared goals. Greenwood, Singer, and Willis (2021) explain that collaboration requires dialogue, negotiation, and mutual agreement. Voets, Brandsen, Koliba, and Verschuere (2021) emphasize the importance of involving government, nonprofit organizations, and the business sector in the delivery of public services.

Furthermore, Wang and Ran (2023) explain that the effectiveness of collaborative governance is influenced by trust, leadership, power sharing, and resource dependency. Bianchi, Nasi, and Rivenbark (2021) also emphasize the importance of linking policy formulation with public service implementation. Therefore, collaborative governance in this study is understood as a governance mechanism that integrates government, schools, communities, businesses, and parents through communication, coordination, trust, and shared commitment.

2.2. Principles of Collaborative Governance

The principles of collaborative governance include participation, transparency, trust, communication, commitment, leadership, and accountability. Lee and Ospina (2022) explain that accountability in collaborative governance relates not only to formal accountability but also to openness of information and responsibility between

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parties. Wang and Ran (2023) emphasize that trust and leadership are crucial factors in maintaining effective collaborative relationships. Therefore, these principles serve as the basis for assessing the quality of multi-stakeholder collaboration in education delivery in Medan City.

2.3. Multi-Stakeholder Partnership

A multistakeholder partnership is a collaboration between various actors with different interests, authorities, and resources to achieve a common goal. Wang and Ran (2023) explain that partnerships require trust, coordination, leadership, and resource management. Wegner and Verschoore (2022) add that the effectiveness of a collaborative network is determined by the ability to manage relationships and coordination among members. In the context of education, Castillo (2022) emphasizes the importance of family and community involvement in supporting educational development. This study identifies five key actors in multistakeholder partnerships: government, schools, communities, businesses, and parents, who play complementary roles in achieving educational sustainability.

2.4. Educational Ecosystem

An education ecosystem is a system that connects various institutions and actors to support the provision of education. Osborne, Nasi, and Powell (2021) explain that creating public service value requires the interaction and contribution of various stakeholders. Furthermore, Osborne, Powell, Cui, and Strokosch (2022) emphasize that a public service ecosystem is formed through relationships between individuals, institutions, organizations, and the social environment. Castillo (2022) also shows that family and community involvement is essential in building a responsive educational environment. Therefore, the education ecosystem in this study is understood as an integrated relationship between government, schools, communities, businesses, and parents in supporting the quality and sustainability of education.

2.5. Sustainable Educational Ecosystem

The sustainability of the education ecosystem is the ability of an education system to maintain service quality, institutional support, social participation, resources, and partnerships over the long term. Osborne et al. (2022) explain that creating public service value requires ongoing interaction between various actors. Osborne et al. (2021) also emphasize that shared contributions are essential in generating public service value. Meanwhile, Kohl, Hopkins, Barth, Michelsen, Dlouhá, Abdul Razak, Abidin Bin Sanusi, and Toman (2022) emphasize a comprehensive institutional approach in integrating sustainability principles into education governance.

Based on this view, the sustainability of the educational ecosystem in this study includes five dimensions, namely:

1. Institutional sustainability.
2. Social sustainability.
3. Sustainability of resources.
4. Sustainability of partnership.
5. Sustainability of education programs.

2.6. Network Governance and Stakeholder Collaboration

Network Governance is a governance approach that emphasizes collaborative relationships between institutions through networks to achieve common goals. Wang and Ran (2023) explain that Network Governance is related to trust, leadership, resource dependence, and network effectiveness. Wegner and Verschoore (2022) add that network management requires effective coordination and managerial practices. In this study, Network Governance serves as a supporting theory to explain the relationship between government, schools, communities, businesses, and parents. Through a structured partnership network, each actor is expected to contribute according to their capacity and responsibilities.

2.7. Development of a Collaborative Governance Model in Education

The development of a collaborative governance model is an effort to build a governance system capable of integrating various stakeholders in education delivery. Bianchi, Nasi, and Rivenbark (2021) emphasize the importance of collaborative implementation mechanisms, while Lee and Ospina (2022) highlight accountability as a crucial element in maintaining accountability between parties.

Based on the synthesis of the thinking of Greenwood et al. (2021), Wang and Ran (2023), Wegner and Verschoore (2022), and Osborne et al. (2022), this study develops six model components as follows.

Table 2.1 Collaborative Governance Model in Education

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No.	Model components	Explanation
1	*Starting Conditions*	Initial conditions and readiness of actors to collaborate.
2	*Institutional Design*	Structure, rules, and division of roles.
3	*Facilitative Leadership*	Leadership in facilitating collaboration.
4	*Collaborative Process*	Communication, trust, and shared commitment.
5	*Resource Integration*	Integration of resources of all actors.
6	*Sustainable Educational Ecosystem*	Institutional, social, resource and educational program sustainability.

These six components form the initial conceptual design that will be developed and validated based on the empirical conditions of education in Medan City.

METHOD

3.1 Types and Approaches of Research

This research employed a qualitative approach with a research and development (R&D) design. The qualitative approach was used to gain a deeper understanding of the collaboration process, partnership patterns, role allocation, communication, trust, and commitment of stakeholders in education delivery. Meanwhile, the development approach was used to formulate a collaborative governance model that could be applied contextually.

Creswell and Poth (2024) explain that qualitative research allows researchers to understand social problems through the perspectives and experiences of participants. Furthermore, McKenney and Reeves (2021) emphasize that developmental research focuses on designing solutions to real-world problems through a process of analysis, design, evaluation, and refinement.

3.2 Location and Time of Research

The research was conducted in Medan City, North Sumatra Province, involving educational institutions and stakeholders involved in education delivery. The research timeframe was adjusted to accommodate the stages of data collection, analysis, modeling, and validation of the research results.

3.3 Research Informants

Informants were determined using purposive sampling techniques, selecting informants based on their knowledge, experience, and involvement in education management and multi-stakeholder partnerships. The research informants included:

1. Regional government or department in charge of education.
2. School principals and teaching staff.
3. Representatives of communities or educational organizations.
4. The business world or private sector.
5. Parents of students or school committee.

Palinkas et al. (2021) explain that purposive informant selection helps researchers obtain in-depth information from individuals with relevant experience with the research phenomenon.

3.4 Data Collection Techniques

Data collection was carried out using three techniques, namely:

1. In-depth interviews, to explore the experiences, views, interests and contributions of each stakeholder.
2. Observation, to observe the practice of coordination, communication, and implementation of partnerships in the educational environment.
3. Documentation, to obtain supporting data in the form of education policies, work programs, activity reports, and cooperation documents between parties.

According to Busetto, Wick, and Gumbinger (2020), the use of several data collection techniques can help gain a more comprehensive understanding of the phenomenon being studied.

3.5 Data Analysis Techniques

Data were analyzed using the interactive model of Miles, Huberman, and Saldaña (2020), which includes three main stages:

1. Data condensation, namely selecting and grouping information based on the themes of collaboration, communication, trust, commitment, role division, and resource integration.

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2. Data presentation, namely compiling the results of interviews, observations and documentation in the form of narratives and a matrix of relationships between stakeholders.
3. Drawing conclusions and verification, namely interpreting findings to identify collaboration patterns and formulating model development needs.

3.6 Model Development and Validation

The model was developed by identifying the current collaboration conditions, mapping the roles of each stakeholder, formulating model components, and developing a multi-stakeholder partnership mechanism. The resulting model was then validated through expert judgment from experts with expertise in public administration, education governance, and education policy.

Validation aims to assess the suitability of the concept, the clarity of relationships between actors, the feasibility of implementation, and the model's contribution to the sustainability of the education ecosystem. The assessment results will be used to refine the model before it is recommended as a collaborative governance framework in Medan City.

3.7 Data Validity

Data validity was ensured through source and technique triangulation. Source triangulation was conducted by comparing information from the government, schools, the community, the business world, and parents. Meanwhile, technique triangulation was conducted by comparing the results of interviews, observations, and documentation. This step aims to increase the credibility and consistency of research findings.

RESULTS AND DISCUSSION

4.1 The existing conditions of collaboration between the government, schools, communities, the business world, and parents in supporting the sustainability of the education ecosystem in Medan City

Research on the existing collaboration between the government, schools, the community, the business sector, and parents shows that the implementation of education in Medan City essentially involves various stakeholders. This collaboration is evident through the role of the government in establishing policies and providing educational facilities, schools as implementers of the learning process, the community as a supportive educational environment, the business sector through its contribution to the development of student competencies and skills, and parents through mentoring and supervision of their children's education. The involvement of these various parties demonstrates that the sustainability of the education ecosystem cannot depend solely on the government and schools, but requires the support of all elements within the educational environment.

From a government perspective, collaboration is demonstrated through policy formulation, provision of facilities and infrastructure, oversight of education delivery, and implementation of various programs to improve the quality of human resources. The government also holds a strategic position as a director and facilitator, connecting school interests with other parties. However, in practice, coordination between the government and other stakeholders still needs to be strengthened so that education programs are not solely driven by individual institutional agendas but have a shared goal oriented toward educational sustainability.

From a school perspective, collaboration is implemented through relationships with the government, school committees, parents, the community, and other external parties. Schools serve as centers of educational activity and serve as a bridge between students and their social environment. Collaboration can be found through parent meetings, school program implementation, social activities, and partnerships with institutions or businesses. However, the implementation of partnerships has not yet fully demonstrated an integrated pattern. Collaborative relationships in some activities are still situational and dependent on the needs of specific programs, making long-term sustainability of collaboration a challenge.

Furthermore, the community plays a role in creating a safe, inclusive educational environment that supports student development. Community involvement can be realized through social activities, environmental monitoring, student support, and participation in educational activities. However, this contribution needs to be developed beyond informal support and become part of a partnership with clear communication mechanisms, roles, and responsibilities. This way, the community can play a more active role in supporting equitable access and improving the quality of education.

From a business perspective, private sector involvement holds significant potential in supporting the sustainability of the education ecosystem, particularly through corporate social responsibility programs, provision of facilities, skills training, digital competency development, internship programs, and linking education to the needs of the workforce. In Medan, this potential partnership is crucial, given that the development of trade, services, industry, and the digital economy requires human resources with competencies aligned with job market needs.

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However, partnerships between schools and businesses need to be strengthened so that they are not solely oriented toward short-term assistance or activities, but also directed toward the sustainable development of student capacity.

Meanwhile, parents play a crucial role in supporting educational success through learning support, character building, meeting educational needs, communicating with the school, and participating in school activities. Parental participation is crucial because the educational process takes place not only at school but also within the family. However, the level of parental involvement can vary depending on economic conditions, educational attainment, time availability, and understanding of the importance of education. Therefore, a more open communication mechanism is needed between schools and parents to ensure that educational responsibilities can be carried out jointly.

Based on all these aspects, it is clear that multi-stakeholder collaboration within Medan City's education ecosystem has a foundation through various forms of involvement and cooperation. However, the main challenge lies in the suboptimal integration of roles, communication, coordination, trust, commitment, and resource utilization among stakeholders. Each party tends to carry out responsibilities based on their respective functions and interests, while mechanisms linking all these contributions within a collaborative governance system still need to be developed.

Thus, the existing situation demonstrates a gap between the potential for multi-stakeholder collaboration and the need for sustainable education governance. The government, schools, communities, businesses, and parents possess complementary resources and capacities. However, without structured coordination, clear division of responsibilities, continuous communication, and shared commitment, this potential may not yield optimal educational impact. Therefore, developing a collaborative governance model is crucial for building a more integrated, participatory, adaptive, and sustainable multi-stakeholder partnership system for the education ecosystem in Medan City.

4.2 What are the supporting and inhibiting factors in building multi-party partnerships to realize the sustainability of the education ecosystem in Medan City?

Based on a study of multi-stakeholder partnerships in education delivery, several factors can support or hinder the sustainability of the education ecosystem in Medan City. Multi-stakeholder partnerships involving the government, schools, communities, businesses, and parents require the active involvement of all actors, shared goals, effective communication, and a clear division of responsibilities. The success of a partnership is determined not only by the number of parties involved, but also by the ability of all parties to build focused and sustainable collaborative relationships.

The first supporting factor is commitment and shared goals among stakeholders. Awareness that education is a shared responsibility is a crucial foundation for building partnerships. The government has the authority to formulate policies and facilitate programs, schools are responsible for the learning process, the community supports the social and educational environment, the business sector contributes through resources and skills development, and parents play a role in mentoring students. When all parties share a common understanding of educational goals, collaboration is more easily directed toward improving the quality and sustainability of education.

The second supporting factor is open communication and coordination. Communication allows each party to convey their needs, interests, constraints, and possible contributions. Good coordination also helps avoid program overlap and ineffective resource use. In the context of Medan City, communication between schools, the government, parents, the community, and the business sector needs to be built sustainably through partnership forums, coordination meetings, and information exchange mechanisms.

The third supporting factor is the availability of resources and institutional support. These resources can include budgets, experts, educational facilities, technology, institutional networks, and knowledge. The government can provide policy support and facilities, the business sector can provide training and technological support, and the community and parents can provide social support and oversight. Combining these resources has the potential to strengthen schools' capacity to address various educational challenges.

Furthermore, trust and active participation between parties are also important supporting factors. Trust encourages each actor to respect each other, be open to differing interests, and be willing to share responsibilities. Active participation ensures that the partnership is not solely dominated by the government or schools, but provides space for proportional contributions from the community, the business world, and parents. Ansell and Gash (2022) emphasize the importance of stakeholder engagement, dialogue, trust-building, and commitment in the collaborative process. Thus, the success of an educational partnership is greatly influenced by the quality of the relationships and interactions developed between actors.

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On the other hand, several inhibiting factors can reduce the effectiveness of multi-stakeholder partnerships. The first obstacle is suboptimal coordination and communication between stakeholders. Different bureaucratic pathways, limited access to information, and a lack of communication forums can lead to disparate educational programs. This situation has the potential to lead to overlapping activities, mismatched needs, and weak program continuity.

The second obstacle is the differing interests and priorities of each actor. The government may be more focused on achieving policy targets, schools may focus on learning and administrative activities, businesses may consider the benefits of partnerships, while parents may be more concerned with their children's educational needs. These differences are natural, but they can become obstacles if not managed through dialogue and mutual agreement. Therefore, a mechanism is needed that can align the interests of each party without diminishing their respective characteristics and responsibilities.

The third barrier is limited resources and institutional capacity. Not all schools and community groups have the same capabilities to build partnerships with external parties. Limited budgets, facilities, support staff, and partnership management competencies can prevent collaboration from running optimally. Furthermore, differences in family economic capacity can also affect the level of parental participation in educational activities.

Another obstacle is the unclear division of roles and responsibilities, as well as weak ongoing commitment. Partnerships based solely on temporary activities or personal relationships risk ending when the program ends, leadership changes, or institutional priorities shift. Bryson, Crosby, and Stone (2021) explain that cross-sector collaboration faces challenges such as differing goals, complex interorganizational relationships, the distribution of power, and the need for shared management. This perspective is relevant for understanding that educational partnerships require a clear collaborative structure and accountability mechanisms that can be maintained over the long term.

Based on this description, it can be concluded that the main supporting factors for multi-stakeholder partnerships in Medan City include shared commitment, shared goals, open communication, trust, active participation, institutional support, and resource availability. Meanwhile, inhibiting factors include weak coordination, differing interests, limited resources, unclear role allocation, and inconsistent long-term commitment. These two groups of factors demonstrate that successful partnerships require more than just multi-stakeholder involvement, but also collaborative governance that integrates the interests, capacities, and contributions of all actors.

Thus, the development of a collaborative governance model within the Medan City education ecosystem needs to be directed at establishing a multi-stakeholder communication forum, establishing roles and responsibilities, strengthening trust, integrating resources, and establishing a joint evaluation mechanism. This model is expected to transform temporary and sectoral collaboration patterns into structured, adaptive, and sustainable partnerships.

Supporting Factors

The first supporting factor is a shared goal and commitment. The government, schools, communities, businesses, and parents need to understand that education is a shared responsibility. A shared goal will make it easier for all parties to align their programs and contributions. In the context of Medan City, the government can act as a policy facilitator, schools as education implementers, the community as social environmental supporters, the business sector as competency development partners, and parents as student advocates.

The second factor is the ability to integrate resources and institutional capacity. Each actor possesses different resources that can complement each other. Schools possess knowledge of learning needs, the government possesses authority and policy support, the business sector possesses professional and technological experience, and the community and parents possess an understanding of the needs of the educational environment. Page et al. (2021) explain that cross-sector collaboration requires organizational capacity to combine knowledge, capacity, and resources from various parties. This demonstrates that the success of educational partnerships can be strengthened through the integrated use of resources.

The third factor is communication, openness, and the ability to build relationships between parties. Good communication allows each actor to convey their needs, resolve differences of opinion, and agree on joint programs. Furthermore, openness in decision-making can increase trust and participation of all stakeholders. Thus, partnerships don't just last for specific programs but can develop into long-term collaborative relationships.

Inhibiting Factors

The first inhibiting factor is differences in interests and work patterns between institutions. The government, schools, communities, businesses, and parents have different orientations and priorities. The government tends to focus on policy achievement, schools on learning delivery, businesses on the needs and benefits of partnerships,

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while parents are more concerned with their children's educational needs. These differences can create difficulties in unifying agendas without communication and mutual agreement.

The second factor is the imbalance in capacity and resources. Not all parties have the same capabilities, access, and facilities to participate in partnerships. Some schools may have broader collaborative networks than others. Similarly, parents' ability to support educational activities may vary based on socioeconomic conditions and time availability. This imbalance has the potential to cause contributions between parties to be disproportionate.

The third factor is the lack of strong institutional mechanisms and partnership sustainability. Collaborations that rely solely on personal relationships or temporary activities risk ending when there is a change in leadership, a policy change, or the end of a program. Vogel et al. (2022) explain that cross-sector partnerships can face obstacles due to differences in institutional logic, working methods, values, and organizational interests. Therefore, educational partnerships require clear rules of engagement, division of responsibilities, and evaluation mechanisms to maintain relationships between parties.

4.3 Coordination, communication, trust, commitment and role sharing mechanisms between stakeholders in the implementation of educational collaboration

The collaborative mechanism between stakeholders in the implementation of education in Medan City is a process involving the government, schools, the community, the business world, and parents in achieving educational goals together. The results of the discussion indicate that coordination is a crucial element in aligning programs and the interests of each party. The government plays a role as a policy director and facilitator, schools as implementers of educational activities, the community as supporters of the educational environment, the business world as partners in developing competencies and resources, while parents play a role in mentoring students. The relationship between these parties needs to be built through a planned coordination mechanism so that each program does not run in isolation, but supports each other in realizing the sustainability of the educational ecosystem.

In terms of communication, collaboration requires open information and ongoing interaction between all stakeholders. Communication can be conducted through coordination meetings, educational partnership forums, school committee meetings, joint discussions, and the use of digital communication media. Through these communications, each party can convey needs, obstacles, suggestions, and possible contributions. However, communication that occurs only when specific activities or issues arise has the potential to lead to a lack of continuity in collaboration. Therefore, clear, easily accessible, and regularly implemented communication channels are necessary to ensure effective information exchange.

Trust between stakeholders is also a key factor in maintaining sustainable educational collaboration. Trust is built through openness, consistent actions, a willingness to accept opinions, and accountability in implementing mutual agreements. The government needs to provide space for participation for schools and the community, while schools need to build transparent relationships with parents and external partners. Henriksen and Paulsen (2021) explain that trust-based relationships and dialogue are essential elements of educational governance, particularly for building productive working relationships between actors in the education system. Therefore, trust is built not only through formal agreements but also through ongoing positive interactions and collaborative experiences.

Beyond trust, shared commitment is the foundation for ensuring collaboration continues beyond temporary activities. Commitment is reflected in each party's willingness to fulfill their responsibilities, provide resources within their capabilities, participate in decision-making processes, and maintain long-term partnerships. In the context of education in Medan City, the commitment of the government, schools, the community, the business world, and parents needs to be directed toward a shared goal: improving service quality, expanding educational opportunities, and creating a sustainable learning environment. Without clear follow-up, the collaboration has the potential to become merely ceremonial and fail to produce meaningful change.

The division of roles among stakeholders is necessary to avoid overlapping authority and unclear responsibilities. The government is responsible for policy, facilitation, and supervision; schools manage the implementation of education; the community supports a conducive social environment; the business world contributes through skills development, technology, and resource support; and parents support the development and learning process of students. Lee and Ospina (2022) explain that accountability in collaborative governance involves both vertical and horizontal accountability relationships, so information, discussion processes, and the consequences of implementing responsibilities need to be considered. This thinking suggests that the division of roles must be accompanied by an accountability mechanism that is understandable and acceptable to all parties.

Overall, the mechanisms of coordination, communication, trust, commitment, and role allocation are interrelated in the implementation of educational collaboration. Coordination serves to align activities,

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communication ensures the exchange of information, trust strengthens relationships between parties, commitment maintains the continuity of cooperation, while role allocation ensures that each actor carries out its responsibilities. Therefore, educational collaboration in Medan City needs to be strengthened through regular multi-stakeholder partnership forums, clear cooperation agreements, joint program development, and evaluation of each stakeholder's contribution. This mechanism is expected to transform the previously partial cooperative relationship into a more focused, integrated, and sustainable collaboration.

4.4 Integration of resources and contributions of each stakeholder can be optimized to build sustainable educational partnerships.

Resource integration is a crucial aspect of building sustainable educational partnerships in Medan. The discussion demonstrates that successful education delivery is not solely determined by the availability of government funding but also requires the integration of various resources from the government, schools, communities, businesses, and parents. These resources include funding, experts, educational facilities, technology, information, collaborative networks, and social participation. If all of these potentials are managed in an integrated manner, all stakeholders can complement each other in addressing resource limitations and improving the quality of education delivery.

From a government perspective, resource optimization can be achieved through budget allocation, educational facilities, regulations, programs to improve the quality of teaching staff, and facilitating collaboration with various parties. The government also needs to establish mechanisms that enable schools and educational partners to access support as needed. Meanwhile, schools contribute by providing teaching staff, learning resources, data on student needs, and managing educational programs. Integration of these two resources needs to be directed toward developing programs that align with the actual needs of schools, ensuring that the assistance and policies provided are consistent and provide sustainable benefits.

Communities contribute through social participation, local knowledge, supervision of the educational environment, and support for learning activities and student character development. Community involvement can strengthen the relationship between schools and the social environment, while helping to create an inclusive educational environment. Meanwhile, the business world can provide support in the form of technology, practical facilities, skills training, internship opportunities, scholarships, and corporate social responsibility programs. Business contributions need to be aligned with educational needs and the development of workplace competencies so that partnerships are not solely oriented towards financial assistance but also result in increased student capacity.

Parents also possess important resources that can be integrated into educational partnerships, particularly their time, attention, experience, knowledge, and support for their children's learning. Parental participation can be strengthened through involvement in school committees, regular communication with educators, home learning support, and participation in school development activities. However, this involvement must take into account differences in family social and economic conditions to avoid creating a disproportionate burden. Therefore, parents' contributions should be measured not only by their ability to provide material assistance but also by their involvement in supporting student development.

From a collaborative resource management perspective, Emerson and Nabatchi (2020) emphasize the importance of capacity for joint action, namely the ability of actors to combine procedures, knowledge, leadership, and resources to achieve collective goals. This idea is relevant to educational partnerships in Medan City because each stakeholder has different capacities, but can yield greater benefits when managed through targeted collaborative mechanisms. Therefore, resource integration needs to be supported by mapping school needs, identifying potential partners, developing joint programs, sharing responsibilities, and transparently evaluating resource utilization.

Based on this description, optimizing resource integration requires a partnership system that not only relies on the contributions of each party separately, but also connects all potentials to a common educational goal. The government can act as a facilitator, schools as centers for program implementation, communities as social environmental strengtheners, the business world as partners in competency and technology development, and parents as primary supporters of family education. By establishing a resource mapping mechanism, contribution agreements, collaborative program implementation, and regular evaluation, educational partnerships in Medan City are expected to be more effective, inclusive, and sustainable. This integration also serves as a foundation for developing a Collaborative Governance model to create a mutually supportive educational ecosystem.

4.5 Development of an effective and contextual Collaborative Governance model in building multi-party partnerships to realize the sustainability of the education ecosystem in Medan City.

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The development of a collaborative governance model for building multi-stakeholder partnerships in Medan City is based on the need to integrate the roles of government, schools, communities, businesses, and parents within a single, sustainable education governance system. Discussions indicate that each stakeholder has different capacities, resources, and responsibilities, necessitating a collaborative model capable of connecting all of these potentials. The developed model emphasizes not only formal cooperative relationships but also fosters understanding, active participation, shared responsibility, and a long-term orientation in education delivery.

The Collaborative Governance model developed needs to consider the characteristics of Medan City as an urban area with diverse social, economic, and cultural conditions. This diversity results in varying educational needs between schools and community groups. Therefore, the collaborative model must be contextual, flexible, and inclusive so that it can be implemented according to the conditions of each educational environment. The local government acts as a facilitator and policy director, schools serve as the center of program implementation, the community contributes through social support, the business sector provides opportunities for competency development and resources, and parents play a role in mentoring and supervising students' education.

The first component of the developed model is strengthening multi-stakeholder coordination and communication. Coordination is achieved through the establishment of an education partnership forum that regularly involves all stakeholders. This forum serves to identify educational issues, prioritize programs, determine resource needs, and evaluate the implementation of the collaboration. Open and continuous communication is necessary to ensure that all parties have a shared understanding of goals, responsibilities, and desired outcomes. Thus, collaboration occurs not only during specific programs but also becomes an integral part of the education management mechanism.

The second component is building trust, commitment, and a clear division of roles. Trust is built through transparency of information, openness in decision-making, and consistent implementation of agreements. Commitment is demonstrated through each party's willingness to participate and maintain a long-term partnership. Meanwhile, the division of roles needs to be outlined in a cooperation agreement that clarifies the responsibilities, forms of contribution, and accountability mechanisms of each actor. Emerson and Nabatchi (2020) emphasize the importance of capacity for joint action in collaborative governance, namely the ability of actors to combine resources, knowledge, leadership, and procedures to achieve common goals. This concept underpins the belief that the effectiveness of an educational partnership is determined by the ability of each party to work in an integrated manner.

The third component is resource integration and strengthening sustainable partnership programs. The government can provide policy, budget, and facility support; schools provide teaching staff and learning program needs; communities provide social support and local knowledge; businesses contribute through technology, training, scholarships, and internship opportunities; and parents support the educational process through mentoring and active participation. Ansell and Gash (2021) emphasize that the collaborative process requires direct dialogue, trust-building, commitment to the process, and shared understanding. Therefore, resource integration must be implemented based on educational needs, mutual agreement, and the perceived benefits of all parties.

Based on these components, the Collaborative Governance model proposed in this study is aimed at establishing participatory, coordinated, and sustainability-oriented educational partnerships. This model has five main elements: collaborating actors, coordination and communication mechanisms, building trust and commitment, resource integration, and partnership evaluation and sustainability. These five elements are interrelated and form a continuous collaborative process. The model's success can be seen from increased stakeholder involvement, clarity of role division, consistency of program implementation, effective resource utilization, and sustainable collaboration. Therefore, this model is expected to become a framework for developing educational governance that is appropriate to the characteristics of Medan City and capable of strengthening the sustainability of the education ecosystem.

CONCLUSION

5.1 Conclusion

Based on the discussion on the development of a collaborative governance model for building multi-stakeholder partnerships to achieve a sustainable education ecosystem in Medan, it can be concluded that education delivery requires the involvement and synergy of the government, schools, communities, businesses, and parents. These five stakeholders have complementary roles, capacities, and resources in supporting improvements in education quality.

Multi-stakeholder collaboration has a foundation through various forms of engagement and cooperation. However, strengthening is still needed in aspects of coordination, communication, trust, commitment, role allocation,

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and resource integration. Barriers such as suboptimal coordination, differing interests, limited resources, and inconsistent partnership implementation can impact the sustainability of education programs.

The development of the Collaborative Governance model in this study focuses on five main components: the involvement of collaborating actors, coordination and communication mechanisms, strengthening trust and commitment, resource integration, and partnership evaluation and sustainability. This model is expected to become a participatory, inclusive, and contextual educational governance framework tailored to the characteristics of Medan City. Thus, the sustainability of the educational ecosystem can be achieved through shared responsibility and integrated partnerships among stakeholders.

5.2 Suggestions

Based on these conclusions, some suggestions that can be given are as follows.

1. For the Medan City government, it is necessary to strengthen its role as a facilitator and director of collaboration through policies that support multi-stakeholder partnerships, the establishment of an education coordination forum, and the provision of a mechanism for periodic evaluation of cooperation.
2. For schools, it is necessary to increase communication and openness with the government, community, business world, and parents in developing and implementing educational programs according to students' needs.
3. For the community and parents, it is hoped that they will increase their participation in supporting educational activities, creating a conducive learning environment, and being actively involved in monitoring and developing the quality of education.
4. For the business world, it is necessary to expand contributions through corporate social responsibility programs, scholarships, skills training, educational technology development, and partnerships oriented towards improving student competency.
5. For further researchers, it is recommended to validate and test the implementation of the Collaborative Governance model by involving more stakeholders in order to obtain a model that is measurable, applicable, and can be developed according to educational needs in Medan City and other regions.

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