IJSS: International Journal of Social Science
Vol. 2 No. 1 (2026), pp: 162-178
ISSN: 3090-0646
DOI: https://doi.org/10.51805/ijss.v2i1.522

SUPPLY CHAIN STRENGTHENING STRATEGY FOR MICRO-ENTERPRISES BASED ON COMMUNITY UNITS IN CIMAHI CITY

Sjamsuridjal[1a*], Iman Sudirman[2], Ester Manik[3]
[1a2]Universitas Pasundan, Bandung, Indonesia
[a]Universitas Nasional Pasim[1]
[3]STIE Pasundan, Bandung, Indonesia
syamsurijal@pasim.ac.id[1], sjamsuridjal.199010016@mail.unpas.ac.id[1],
imansudirmal@unpas.ac.id[2], ester.manik.spmi@gmail.com[3].

ABSTRACT

Strengthening the micro-enterprise supply chain still faces various obstacles, particularly unintegrated supply chain management, weak coordination among business actors, limited market access, and suboptimal stakeholder collaboration. Research on Supply Chain Management (SCM) in micro-enterprises generally continues to focus on operational aspects and logistics efficiency, while the integration of collaborative governance based on community-level-administrative units within supply chain management remains relatively limited. This study aims to develop a collaborative community units-based Supply Chain Management strategy as a strategic approach to support supply chain effectiveness for micro-enterprises. This study employs a qualitative approach with a single case study method focusing on the processed food micro-industry in Cimahi City. Data collection was carried out through in-depth interviews, observation, documentation, and focus group discussions (FGD) involving micro-enterprise actors, local government, community units, academics, and relevant stakeholders. Data analysis was conducted through data reduction, triangulation, strategic factor analysis, and the formulation of the micro-enterprise supply chain strategy. The results indicate that the primary supply chain issues for micro-enterprises include weak information integration, limited coordination among business actors, low technology utilization, and suboptimal multi-stakeholder collaboration. This research yields a supply chain effectiveness strategy for micro-enterprises based on the community units. The developed strategies include strengthening collaborative networks, information integration, capacity building for business actors, and strengthening partnerships among stakeholders. This study provides a theoretical contribution to the development of the concept of Community-Based Supply Chain Management within the context of micro-enterprises.

Keywords: *Supply Chain Strategy, Community Unit, Micro-Enterprises, Community-Based SCM.*

INTRODUCTION

In 2023 and 2024, the Cimahi City Government implemented micro-enterprise empowerment programs involving all community units (*Rukun Warga*), a neighborhood-level community in Indonesia, across Cimahi City as an instrument for community-based economic empowerment. This program was designed to explore local economic potential, increase citizen participation, and encourage the creation of flagship products in every community units to serve as regional economic identities. The program positions micro-enterprises as the primary actors in local economic development using a participatory approach and leveraging community social capital.

Through Cimahi City Government micro-enterprise empowerment program, each community units were encouraged to identify and develop business potentials that could be managed collectively, particularly in the culinary, craft, and home industry sectors. On its

implementation, the program reached nearly every community units in Cimahi City, generated various flagship products, and held competitions for these superior products. The employment of this empowerment program demonstrates systematic efforts by the local government to spur community-based economic activities and boost the visibility of the micro-enterprise supply chain at the community unit level.

However, as an empowerment initiative involving micro-scale business actors with diverse capacities and resources, the implementation also revealed non-uniform dynamics. In one side, the program opens up opportunities for strengthening the local economy, increasing community participation, and building a community unit economic identity. In contrast, structural constraints and external challenges persist, which potentially influence the supply chain effectiveness of the micro-enterprises involved.

In this study, the empowerment program is not positioned as an object of public policy evaluation, but rather as an empirical context to understand the dynamics of the community economy at the community units level. The empowerment program serves as an observation space to examine how micro-business actors, residents, and local economic actors interact within a community ecosystem, and how structural limitations affect micro-enterprise supply chain effectiveness. Therefore, the research analysis is not directed toward evaluating the administrative success or failure of the program, but to understanding the community economic mechanism developed within the framework of such community-based intervention.

Although micro-enterprises are the backbone of Cimahi City's local economy, the dynamics of micro-businesses at the community level, particularly within the community units, exhibit several systemic and recurring structural issues. Three prominent phenomena in this context are supply chain fragmentation, limited and unstable production capacity, and weak connectivity among local economic actors (residents, local shops, and community units' cooperatives).

The first and most prominent phenomenon is supply chain fragmentation among community unit-level micro-enterprises. Most micro-enterprises in Cimahi obtain raw materials individually, on a small scale, and without coordination. The second structural spectacle is the limited and unstable production capacity of micro-businesses at the community unit level. The majority of micro-enterprises in Cimahi operate as home-based enterprises using simple technology, manual production processes, and highly limited labor. The third fact reinforcing these structural issues is the weak connectivity among local economic actors, specifically between residents as consumers, local shops (*warung*) as micro-distributors, and community units' cooperatives as potential economic drivers. In practice, these three actors operate in isolation and are not integrated into a mutually supportive economic ecosystem. The community units' residents as consumers are not systematically connected to local products. This leads to a low velocity of the local economy, causing micro-enterprises to lose a substantial internal market potential. These phenomena lead to the proposition that the sustainability of community unit-level micro-enterprises is heavily influenced by the effectiveness of the supply chain system regulating the flow of inputs, production processes, and distribution at the community level.

Practically, the micro-enterprise empowerment program by the Cimahi City Government was not originally designed to address the dimensions of supply chain management (SCM). The program does not explicitly regulate or facilitate collective raw material procurement mechanisms, cross-actor production process standardization, production capacity coordination, or the establishment of community distribution systems. Consequently, although the program succeeded in bringing forth flagship of community units' products, the participating micro-enterprises continue to operate within fragmented and inefficient supply chain structures. The absence of a supply chain perspective in the

empowerment program design creates what can be termed as an implementation gap — a disparity between the normative goals of local economic empowerment and the structural impacts produced on the ground. While the program contributes to enhancing citizen creativity and participation, it has not altered the community economic structures that dictate long-term micro-business viability yet.

Furthermore, the community-based approach, which should serve as a core strength for micro-enterprise development, has not been optimally utilized. In reality, most micro-enterprises thrive within social environments characterized by tight community ties, social proximity, and high potential for collective cooperation. However, this social capital has not been fully translated into collaborative supply chain mechanisms capable of strengthening coordination, information sharing, and stakeholder collaboration to sustain business operations. Therefore, a structured, community-based collaborative supply chain management framework is required to integrate supply chain actors and enhance effectiveness through a more structured and sustainable multi-stakeholder collaboration mechanism.

RESEARCH OBJECTIVES

This study aims to develop a Community-Based Supply Chain Management (Community-Based SCM) approach for micro-enterprises centered on community units level as a strategy to bolster micro-business sustainability. The research maps out various supply chain issues faced by micro-enterprises, analyzes strategic factors influencing the development of Community-Based SCM, and formulates an implementation strategy that enhances coordination, collaboration, and integration across stakeholders. More specifically, the objectives of this research are:

1. To identify Community-Based SCM issues faced by micro-enterprises at the community unit level.
2. To analyze strategic factors in developing Community-Based SCM for micro-enterprises at the community unit level.
3. To formulate implementation strategies for micro-enterprise sustainability through an community unit-based SCM approach.

LITERATURE REVIEW

1. Supply Chain Management

Supply Chain Management (SCM) is a strategic approach used to manage the flow of goods, information, and coordination activities among actors in an integrated supply chain network. SCM does not focus merely on product distribution processes; it encompasses managing relationships across supply chain actors, ranging from raw material suppliers, manufacturers, and distributors, to the final customers. Through an integrated approach, SCM aims to improve operational efficiency, strengthen coordination among business entities, enhance service quality, and create value-add for the entire supply chain network.

The concept of SCM evolved from traditional logistics management toward broader, collaborative integration systems. In a modern perspective, SCM is understood as a mechanism for managing interconnected networks of organizations through product, information, and financial flows to satisfy customer needs effectively and sustainably (Chopra & Meindl, 2020). Hence, SCM success is determined not only by individual firm capabilities but also by the effectiveness of relationships and coordination among all supply chain members.

SCM also emphasizes the importance of supply chain coordination. Coordination is necessary to align activities among supply chain members so that collective goals can be

achieved effectively. Coordination can take the form of joint raw material procurement, distribution alignment, information sharing, and strategic partnership development. Strong coordination reduces conflicts among supply chain actors, enhances operational efficiency, and reinforces the competitiveness of the business network as a whole.

In its implementation, SCM connects several primary actors. Suppliers provide raw materials and guarantee supply continuity. Manufacturers handle production and processing. Distributors manage storage and product delivery to markets, while customers dictate demand and determine product success. The relationships among these actors require strong integration and coordination to ensure an effective, long-term supply chain.

In short, SCM is an integrative system connecting goods, information, and collaborative coordination across actors. Its success depends heavily on integration capabilities among suppliers, manufacturers, distributors, and customers in building effective coordination and collaboration to support business sustainability and competitive advantage.

2. Collaborative Supply Chain Management

Collaborative Supply Chain Management (Collaborative SCM) is a management approach that underlines collaboration, coordination, and integration among supply chain actors to achieve mutual goals effectively and sustainably. Unlike traditional supply chain approaches that tend to be fragmented and focused on internal organizational efficiency, Collaborative SCM views the supply chain as a collaborative network requiring synergy among actors to lift overall performance.

A core element of Collaborative SCM is information sharing. Accurate, rapid, and transparent information exchange among actors forms the foundation for effective decision-making. Information regarding market demand, production capacity, raw material inventory, product distribution, and market conditions allows supply chain members to execute coordinated planning. Information sharing also helps mitigate uncertainty, accelerates responsiveness to market changes, and drives operational efficiency. In the micro-business context, information transparency among actors and stakeholders is vital for cultivating an adaptive and responsive supply chain.

Furthermore, partnerships are a key component of Collaborative SCM. Partnerships reflect long-term cooperative relationships built on mutual goals, interdependence, and collaborative commitment. Through partnerships, organizations can share resources, minimize operational risks, optimize distribution efficiency, and expand market access. In micro-enterprises, partnerships can manifest through cooperation among business actors, business communities, government bodies, academics, and other supporting institutions to build an integrated business ecosystem.

Collaborative SCM also stresses the importance of coordination. Coordination aligns operational activities, distribution, procurement, and marketing so that the entire supply chain runs fluidly. Proper coordination curtails activity duplication, quickens product and information flows, and enhances network efficiency. Implementation can be driven via joint planning, routine communication mechanisms, information system integration, and collaborative institutional strengthening.

Thus, Collaborative SCM is a strategic approach highlighting collaborative integration through information sharing, partnership, trust, coordination, and collaborative networks. This approach aims not only to improve operational efficiency but also to cement business sustainability via multi-stakeholder synergy within an integrated supply chain ecosystem. This aligns with the Sustainable Supply Chain Management framework by Stefan Seuring & Martin Müller (2008), which connects economic, environmental, and social goals within supply chains.

3. Community-Based Approach

A community-based approach places the community as the primary actor in participatory decision-making, coordination, and resource management. This approach emerged in response to the constraints of centralized, top-down governance models, particularly when addressing local social, economic, and development issues that demand active public and stakeholder engagement. In local economic and micro-business development, a community-based approach is crucial as it stimulates participation, strengthens collaboration, and creates adaptive coordination mechanisms tailored to local community traits.

Conceptually, community-based frameworks dictate that system success depends not only on the government's role but also on the active engagement of communities, business actors, social institutions, academics, and other stakeholders in building collaborative networks. This approach regards the community as a social entity endowed with the capacity to manage resources, establish cooperative networks, and create coordination mechanisms that support sustainable development. Consequently, it focuses not just on reinforcing formal institutions, but also on nurturing social relations, public participation, and collective community capacity.

One of the central concepts within community-based models is collective action, defined as joint efforts undertaken by individuals or groups to achieve collective goals that cannot be efficiently achieved individually. In micro-enterprises, collective action can be realized through joint raw material procurement, collective product distribution, shared marketing, information exchange, and business network development. Collective action approaches are paramount because most micro-enterprises face severe resource constraints, requiring collective cooperation and backing to boost competitiveness and survival.

Community-based approaches are also closely tied to local institutional strengthening. Local institutions act as social coordination mechanisms regulating relations among community members and stakeholders within a collaborative framework. Strengthening local institutions includes capacity building for community organizations, forming collective rules, boosting local leadership, and establishing effective communication and coordination mechanisms. In the context of micro-businesses, the local institution under study is the existing Rukun Warga (RW) institution. A strong RW framework stabilizes business networks, increases member participation, and supports community-level economic development programs.

In practice, community-based models champion the principles of participation, collaboration, transparency, and community empowerment. This approach recognizes that the Community units possesses localized knowledge, experience, and social capacity that can serve as critical capital for developing sustainable systems. Therefore, community-based supply chain success is heavily influenced by community engagement levels, stakeholder relationship quality, and the effectiveness of RW institutions in executing coordination and decision-making functions.

In this study, community-based principles form the foundation for developing collaborative Supply Chain Management for micro-enterprises. An Community units-based MSME supply chain approach enables more participatory coordination, reinforces collaboration among supply chain actors, and integrates stakeholders to support micro-enterprise sustainability.

4. SWOT, IFAS, and EFAS Analysis as a Basis for Strategy Formulation

Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis is used in this study as a strategic analytical tool to identify and categorize internal and external factors affecting supply chain management effectiveness and MSME business continuity. In practice, SWOT analysis is operationalized by compiling Internal Factors Analysis Summary (IFAS)

and External Factors Analysis Summary (EFAS) matrices to provide a systematic evaluation of identified strategic factors.

This approach follows the strategic analysis framework put forward by Fred R. David (2017), which explains that internal and external factor evaluations can be performed by assigning weights and ratings to gauge the importance and actual condition of strategic factors. A similar approach is advanced by Freddy Rangkuti (2018), who stresses that IFAS and EFAS matrices are used to identify and evaluate strategic factors in a structured manner to underpin strategy formulation.

Conceptually, IFAS is used to evaluate internal factors reflecting organizational or business strengths and weaknesses, whereas EFAS evaluates external factors reflecting environmental opportunities and threats. This approach allows researchers to not only qualitatively identify strategic factors but also assign weights to determine their relative importance.

In this study, the compilation of IFAS and EFAS is conducted through four analytical stages: scanning, monitoring, forecasting, and assessing. The scanning stage identifies strategic factors based on in-depth interviews and field observations. The monitoring stage establishes Key Factor Indicators (KFI) relevant to MSME supply chain effectiveness. These KFIs are subsequently verified during focus group discussions (FGD).

Next, the forecasting stage groups these factors into strengths, weaknesses, opportunities, and threats. The final stage, assessing, evaluates the relative importance of each factor against the core research problems.

Research Gap

Academic literature regarding micro-enterprises in Cimahi City remains highly limited and has rarely been examined from a supply chain management perspective. Existing research generally focuses on micro-business empowerment, local product development, or local government policies, but fails to analyze how production, distribution, and economic coordination activities at the community unit level can form an integrated supply chain system.

Furthermore, no previous studies have integrated the relationships among micro-business actors, local shops, cooperatives or shared business entities, and community unit institutional frameworks within a single community supply chain management model. Former SCM studies conducted by researchers primarily focus on individual MSME business efficiency. Similarly, most collaborative SCM studies focus on large corporations. Community development studies generally bypass supply chain dynamics, and local governance is rarely integrated with SCM. Likewise, the Cimahi City Government's program has primarily been understood as a regional flagship product development program, rather than as a foundation for forming a community unit-based supply chain system.

Therefore, the research gap of this study lies in the absence of a Supply Chain Management development strategy that puts the community unit as a local supply chain governance entity to integrate procurement, production, distribution, and information coordination for micro-enterprises. The research gap details are summarized in the following table:

Table 1. Research Gap Analysis Matrix

Previous Research Focus	Primary Findings	Limitations
Supply Chain Management in MSMEs	Focus on operational efficiency, distribution, and cost controls.	Does not integrate community governance aspects.
Collaborative Supply	Emphasizes information	Mostly applied to large

Chain Management	sharing and partnerships.	enterprises and manufacturing.
Community Development and MSME Empowerment	Emphasizes community strengthening and social capital.	Fails to link the community with supply chain systems.
Local Governance	Focus on community participation and local institutions.	Not positioned as a supply chain coordination mechanism.

RESEARCH FRAMEWORK

Within this framework, supply chain management is understood not merely as the technical management of material flows, but also as a socio-economic coordination mechanism linking raw material procurement, production, distribution, information flows, and market demand among local business actors. Therefore, mechanism effectiveness is highly influenced by social capital dynamics and institutional capacities at the community unit level. The Community-Based Development (CBD) approach provides a conceptual foundation to comprehend the community unit as part of a community economic system, where residents act not only as business owners but also as consumers, resource providers, and social actors. From this perspective, economic success is determined not only by technical efficiency, but also by participation levels, a sense of ownership, and the community's capacity to manage resources collectively. Hence, the integration of RW-based micro-enterprise supply chains relies heavily on the community's ability to leverage social capital as an alternative coordination mechanism to balance formal structural limitations. Based on this framework, micro-enterprise sustainability is understood as a socio-economic consequence of an operating supply chain mechanism that is socially and institutionally integrated. This research framework suggests that supply chain management functions as an integrative mechanism bridging the community's social context with micro-enterprise economic activities.

METHODOLOGY

This study adopts a qualitative approach with a single case study design. A qualitative approach was selected because this study focuses on understanding social phenomena deeply and contextually, specifically supplies chain synergy at the community unit level. Qualitative methods allow an exploration of perceptions, interactions, and practices that cannot be fully captured through quantitative approaches.

Qualitative research acknowledges flexibility to expose process dynamics, contexts, and meanings from informants' experiences. For micro-enterprises at the community unit level, phenomena like collaboration, social trusts, and local distribution patterns are intricate and demand profound understanding. There are several compelling reasons for choosing qualitative methods: 1) The phenomenon is complex and contextual, 2) the research objectives are exploratory and explanatory, 3) there is a vital need to comprehend actors' perspectives, and 4) there is a scarcity of prior research on supply chains within community units, demanding a qualitative approach to discover innovative insights.

This study is classified in the category of an explanatory case study with a qualitative approach—aiming to explain how and why relationships among actors and processes within the community unit supply chain form, rather than statistically testing variable relationships. A case study design was selected because this study investigates a contemporary phenomenon (community unit-based supply chains) within a real-world context. The study was conducted as a single case study, utilizing the Cimahi City Government's micro-

enterprise empowerment program as the primary case, with a specific focus on micro-enterprises in the food processing industry. With this design, the analytical focus remains pinpointed on understanding community unit-based supply chain management mechanisms within a similar case framework, while variations across different community units are treated as part of the case's internal complexity rather than impartial cases. A single case study design was chosen to facilitate an in-depth understanding of one specific case: selecting a single product commodity.

The research is located in Cimahi City, and the research subjects are Cimahi City Government-assisted micro-enterprises involved in the empowerment program and community units. Sampling for this single case study relies on purposive sampling based on specific criteria. This study examines one commodity as the unit of analysis, with informants comprising micro-enterprise actors engaged in that specific commodity sector. The single case study approach also allows the researcher to contrast supply chain effectiveness across different micro-businesses within the same commodity.

Based on business characteristics and involvement in community economic networks, the informants are grouped into three primary categories: 1) Community-based business actors, i.e., businesses growing within community organization frameworks like the Women Farmers Group involving resident participation in production and distribution; 2) Individual business actors, i.e., micro-enterprises run independently by owners with home production models and relatively restricted distribution networks; and 3) Community institutional actors, i.e., local figures or leaders who play a role in coordinating community economic activities at the community unit level.

This diversity of business characteristics outlines the variation in management patterns and relations among local economic actors within Cimahi City's micro-enterprise supply chain system. Thus, the unit of analysis is not merely individual businesses, but the supply chain management mechanisms formed via interactions between business actors, RW communities, and local institutional actors within the context of the Cimahi City Government's empowerment program. The inclusion of eight informants serves to reconstruct how raw material flows, production processes, distribution, and community support operate within a local economic ecosystem.

Data collection was carried out through interviews, documentation, and observation, and validated through focus group discussions (FGD). The FGD was attended by 10 participants, comprising policymakers from the Cimahi City MSME department, the Cimahi City MSME Association, and informant representatives. Data analysis was executed via data reduction, triangulation, SWOT analysis, Internal Factor Analysis Summary (IFAS) and External Factor Analysis Summary (EFAS) analysis, and strategic synthesis.

RESEARCH FINDINGS AND DISCUSSION

1. Micro-Enterprise Supply Chain Conditions

Research findings show that micro-enterprise supply chains still face various issues affecting operational effectiveness and business sustainability. These problems relate not only in technical distribution aspects but also in concealment coordination among business actors, information blockades, technology utilization, marketing, and supporting institutions. This indicates that micro-enterprise supply chain systems remain fragmented and are not yet optimally integrated.

One of the core issues discovered is raw material supply instability. Most micro-enterprise actors still rely on specific suppliers with restricted supply capacities. This condition causes micro-businesses to frequently face raw material delays, price fluctuations, and product quality uncertainties. Furthermore, limited working capital prevents micro-business actors from purchasing raw materials in large volumes to stabilize production.

Research findings demonstrate that relationship between micro-enterprises and suppliers remain short-term and transactional, meaning sustainable supply chain partnerships have not yet materialized. Consequently, raw material procurement processes keep on highly vulnerable to market shifts and distribution disruptions.

On the distribution side, micro-enterprises still contend with limited logistics systems and market distribution networks. Most product distribution is handled modestly with lack supports from integrated distribution management systems. Inadequate transportation means, relatively high logistics costs, and suboptimal marketing networks prevent businesses from capturing broader markets.

In addition, distribution coordination among business actors is weak. Many micro-businesses manage distribution individually without collaborative mechanisms for product shipment or joint network development. This condition limits distribution efficiency and reduces product competitiveness.

The study also found that coordination among supply chain actors does not run effectively. Relationships among suppliers, manufacturers, distributors, and marketers tend to run solely without integrated coordination systems. Communication bottlenecks among business actors cause supply chain decision-making less responsive to market changes.

Furthermore, the absence of community-based coordination mechanisms keeps collaboration among business actors become informal and unsystematic. This hinders the formation of collaborative supply chains capable of lifting collective efficiency and viability.

Information constraints represent another significant hurdle in supply chain management. The findings show that most micro-enterprise actors are having lack integrated information systems for production, inventory, distribution, or marketing management. Data concerning market demand, material availability, and distribution are still handled manually and remain limited.

This state of affairs leads to delayed decision-making, low production planning accuracy, and weak responsiveness to changing market demands. Moreover, limited information sharing among business actors undermines supply chain coordination effectiveness.

The research shows that technology utilization in micro-enterprise supply chain management is still relatively low. Most actors still deploy conventional operational systems across production, stock-taking, distribution, and product marketing. Low digital literacy, human resource constraints, and limited technology investment are the primary factors blocking digital transformation.

Regarding marketing, the study reveals that most micro-enterprises still face market access limits and low product marketing capabilities. Marketing activities are dominated by local marketing patterns with narrow reach. Furthermore, branding skills, digital promotion, and modern marketing network development are not yet optimal. This result in relatively low micro-enterprise product competitiveness compared to products supported by integrated marketing and distribution systems. Marketing limitations also depress market demand stability and restrict business expansion opportunities.

The research also indicates that community unit institutions have not functioned optimally as supply chain coordination mechanisms. Although community business groups exist, most focus primarily on administrative tasks and have not assumed a strategic role in constructing collaborative supply chains among micro-businesses. This causes micro-enterprise supply chain development to proceed disjointedly, failing to yield a sustainable, collaborative ecosystem.

Discussion

The research findings show that micro-enterprise supply chain issues are not merely

operational but are tied to weak collaborative governance and low integration among stakeholders. This indicates that strengthening micro-enterprise supply chains demands an approach that looks beyond logistical efficiency, targeting the strengthening of collaboration, coordination, information sharing, and community institutions.

These results reinforce the view that supply chain management success in micro-enterprises is heavily influenced by the ability to build collaborative networks among business actors and supporting stakeholders. In this context, community-based collaborative supply chain management becomes essential as a strategic approach to boost coordination, supply chain integration, and collective micro-business survival. This finding aligns with the collective action and local institutional governance perspectives developed by Ostrom (1990), which emphasize the importance of local institutions in managing resources and driving collective coordination.

2. Strategic Factor Analysis

Strategic factor analysis identifies the internal and external conditions influencing the development of collaborative Supply Chain Management in micro-enterprises. This analysis maps the strengths, weaknesses, opportunities, and threats faced by micro-businesses in constructing collaborative and sustainable supply chain systems. The internal and external factors identified through the SWOT analysis are as follows:

Strengths

- The majority of micro-enterprises possess legal business status, such as a Business Identification Number (NIB), halal certification, and home industry production permits (IPRT).
- Products maintain relatively consistent quality standards through the use of standardized recipes and production procedures.
- Several community-based enterprises utilize local raw materials sourced from collective plots managed by groups such as the Women Farmers Group (KWT).
- High community solidarity enables active resident engagement in both production and product marketing activities.
- Micro-enterprise actors demonstrate strong adaptability and product innovation capabilities in developing product variations.

Weaknesses

- Business management systems remain traditional, with stock and financial logging mostly executed manually.
- The production technology used is simple, resulting in relatively limited production capacity.
- Production facilities and business spaces are limited, particularly for home-based operations.
- There is a heavy reliance on family labor or community members who are not always consistently available.
- The utilization of digital technology for product marketing remains relatively low.

Opportunities

- Local government support through the Micro-Enterprise Empowerment Program provides promotional facilities and guidance for micro-businesses.
- The growth of digital marketing opens up avenues for market expansion for micro-enterprise products.
- There is rising public interest in local products and natural ingredient-based food options.
- Potential exists for building partnerships among business actors through micro-level Community units networks.

Threats

- Intense competition exists from similar products offered by other business actors and larger-scale industries.
- Food products possess a relatively short durability, requiring rapid distribution systems.
- Raw material price fluctuations directly impact production costs.
- A heavy dependence on consignment sales models slows down business capital turnover.

Discussion

The SWOT analysis results demonstrate that developing community-based collaborative supply chain management for micro-enterprises holds substantial potential if backed by enhanced coordination, stakeholder collaboration, and community unit institutional integration. Strengths such as community unit social capital and business flexibility can serve as foundations for building a more integrated collaborative network.

Nevertheless, internal weaknesses like low information integration, technological limitations, and weak supply chain coordination emphasize the need for community-based governance as a strategic mechanism to support micro-business sustainability. On the other hand, opportunities presented by digital technology growth and government policy backing can be leveraged to reinforce community-based collaborative supply chains.

3. IFAS and EFAS Analysis

To evaluate the internal and external factors systematically, IFAS and EFAS matrices were developed, where each factor was assigned a weight and a rating to indicate its relative importance and current condition. The evaluation and weighting results are detailed in the matrices below:

Table 2. Internal Factor Analysis Summary (IFAS) Matrix

No	Internal Factors	Weight	Rating	Score
1	Strong community social capital	0.10	4	0.40
2	Presence of group-based enterprises	0.08	3	0.24
3	Products possess formal certification (Halal, NIB)	0.07	3	0.21
4	Small-scale production	0.12	2	0.24
5	Simple production technology	0.10	2	0.20
6	Lack of coordination among business actors	0.15	1	0.15
7	Individual raw material procurement	0.12	2	0.24
8	Manual business logging systems	0.10	2	0.20
9	Limited business capacity	0.08	2	0.16
10	Suboptimal role of local institutions	0.08	2	0.16
	Total	**1.00**		**2.20**

Table 3. External Factor Analysis Summary (EFAS) Matrix

No	External Factors	Weight	Rating	Score
1	Support from the Cimahi City Program	0.15	4	0.60
2	Local community market potential	0.12	3	0.36
3	Government-sponsored bazaars and exhibitions	0.10	3	0.30
4	Digital marketing expansion	0.10	3	0.30
5	Residents' social networks	0.13	4	0.52
6	Supply chain fragmentation	0.12	2	0.24
7	Dependence on external suppliers	0.10	2	0.20
8	Competition from similar products	0.08	2	0.16
9	Unstable market conditions	0.10	2	0.20
	Total	**1.00**		**2.88**

The IFAS matrix calculation shows a total internal score of ***2.20***. This value indicates that the internal condition of micro-enterprises is still dominated by structural weaknesses that hamper supply chain management and business survival. A position below the midpoint of the internal matrix indicates that the internal strengths possessed by micro-enterprises have not yet overcome the complex problems faced in material procurement, production, distribution, and business coordination among micro-enterprise actors.

The EFAS matrix calculation yields a total external score of ***2.88***. This score indicates that the external environment presents relatively strong opportunities for supply chain development and micro-business sustainability. These opportunities stem primarily from Cimahi City Government support, government bazaars, digital marketing growth, local community market potential, and residents' social networks that can be used for product distribution. These IFAS and EFAS scores are subsequently utilized to determine the strategic position of micro-enterprises on the Grand Strategy Matrix.

Based on the IFAS and EFAS scores, the grand strategy position falls into **Quadrant II**, which is the **Weakness–Opportunity (WO) Quadrant**. Positioned in Quadrant II, MSMEs face significant external opportunities but remain unable to exploit them optimally due to various internal weaknesses. This condition indicates that the most relevant approach is a *turn-around strategy* that focuses on leveraging external opportunities to overcome internal deficiencies. In this study, the chief weaknesses lie in restricted business capacity, simple production technology usage, and the absence of coordination mechanisms among actors. Conversely, available external opportunities—such as Cimahi City Government support, local market potentials, and community social networks—provide fertile ground for collaboration-based strategies.

Based on this position, the strategies developed in this study adopt a Weakness–Opportunity (WO) approach, which consists of:

1. Developing a collective raw material procurement system to address capacity

limitations and drive cost efficiency.
2. Encouraging production collaboration among business actors to scale up production capacity.
3. Developing Community units-based digital marketing to widen market reach.
4. Building Community units-based coordination mechanisms to integrate supply chain activities.
5. Strengthening the role of local institutions as business coordination facilitators.

These strategies look beyond basic operations, showing an intervention pattern that leads to forming a systemic mechanism in Community units-based micro-enterprise supply chain management, placing the Community units as the coordination node for micro-enterprise supply chain integration. In this context, the resulting WO strategy must not merely be implemented via isolated actions, but needs transformation into a systemic framework capable of integrating all supply chain activities.

Discussion

The primary weaknesses identified in the IFAS matrix, such as production capacity constraints, basic technology use, and missing coordination among actors, mirror real field conditions. This reveals that despite strong community social capital potential, it has not been optimally harnessed to back economic activities. On the other hand, the opportunity factors identified in the EFAS matrix, like local government program support, local market potential, and digital marketing trends, represent real opportunities. However, these opportunities cannot be fully captured due to the actors' internal limitations.

The analysis demonstrates that micro-enterprises hold substantial development potential but continue to wrestle with structural and operational hurdles requiring collaborative strategy enforcement. These findings highlight that micro-enterprise supply chain success depends not only on operational efficiency but on the ability to build multi-stakeholder collaboration, reinforce community institutions, and integrate stakeholders within a collaborative and sustainable governance system.

Cooperation among business actors emerges as a highly relevant solution to overcome existing limitations. Joint raw material procurement, production collaboration, and shared marketing have the potential to lift efficiency and capacity. Yet, such cooperation cannot occur spontaneously; it requires structured coordination mechanisms and active facilitators, from both within the community and external entities. This finding reinforces the SWOT analysis positioning the Weakness–Opportunity (WO) strategy as the most relevant approach, where external opportunities are harnessed to address internal weaknesses through coordination system strengthening.

4. COMMUNITY UNITS-BASED MICRO-ENTERPRISE SUPPLY CHAIN DEVELOPMENT STRATEGY

The formulated WO strategy must transition from a conceptual framework to operational implementation mechanisms. This operationalization is not intended as a rigid administrative-technical manual, but as an implementable framework explaining how coordination and integration within the Community units can be executed to advance Community units-based micro-enterprise supply chains. Thus, operationalization bridges conceptual theory with empirical implementation within community-based businesses in Cimahi City.

Based on the WO grand strategy, the Community units-based micro-enterprise supply chain development strategy can be structured around enhancing coordination across three core supply chain flows: the flow of raw materials (upstream), the production process flow (internal process), and the distribution and information flow (downstream).

1) Upstream Supply Management Strengthening

At the raw material procurement stage, the community-based SCM strategy highlights the importance of collective procurement mechanisms within the RW environment. Collective procurement can be coordinated by community business groups at the RW level, such as the Women Farmers Group or joint business entities. These groups act as aggregators that pool raw material needs from various micro-businesses within an RW territory. In this manner, raw material purchases can be completed in larger volumes, thereby lowering production costs for individual business actors.

2) Community Production Collaboration Based on the Community Units

The second operational implication of the strategy is strengthening production collaboration among actors within an Community units. Production collaboration can manifest through collective work mechanisms among Community units members, particularly for labor-intensive production activities like raw material processing, product packaging, or handling large volume orders. Through this collaboration, micro-enterprise actors can flexibly expand production capacity without having to add large-scale permanent labor. Additionally, the community units can develop a shared production facility concept utilized by several actors in rotation. This shared facility helps micro-businesses meet better production standards and optimizes equipment utilization efficiency.

3) Community Units-Based Distribution Systems

At the product distribution stage, the community units-based supply chain strategy emphasizes leveraging residents' social networks as local distribution channels. Through a community-based distribution approach, social networks can be leveraged as organized product distribution systems. Community residents can act as resellers or local distribution agents who help expand product marketing reach. In this context, social relations among residents become vital capital reinforcing micro-enterprise product distribution networks. Furthermore, the Community units can establish a community logistics hub that functions as a collection point for products from various micro-businesses before final distribution to consumers. This logistics hub helps coordinate product distribution more efficiently and reduces transportation costs for business actors.

4) Digital Supply Chain Coordination

The final operational implication is applying simple digitalization to manage supply chain information. Simple digitalization can be introduced through inventory tracking applications, digital sales logging systems, and utilizing social media as product marketing tools. Additionally, the Community units can utilize digital communication platforms, such as messaging groups or community marketplaces, to coordinate product orders and exchange information among business actors. Implementing digitalization is crucial to elevate supply chain visibility and ease coordination among community business actors. With an integrated information system, micro-businesses can manage production and distribution more efficiently and respond to market demands more swiftly.

Framework of the Community Units-Based Supply Chain Strategy

The community units-based micro-enterprise supply chain development strategy can be illustrated in the following structural framework:

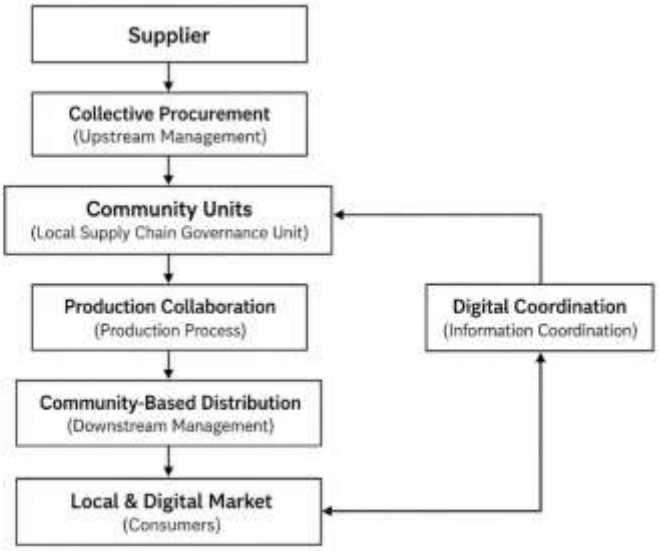


Figure 1. Community Units-Based Supply Chain Strategy Framework
Source: Compiled by researchers (2026)

Discussion

These four strategies indicate that strengthening micro-enterprise supply chain management does not rely purely on scaling up individual business capacities, but requires collective coordination mechanisms capable of integrating community resources into a structured supply chain. Therefore, the strategies of upstream management strengthening, community production collaboration, community-based distribution systems, and digital supply chain coordination serve as pillars for cultivating community-based supply chains at the Rukun Warga level.

This finding aligns with Fauzan & Sudrajat (2025), who found that West Java MSMEs still encounter supply chain information integration limits. However, in contrast to their research, this study demonstrates that the RW institutional framework can function as an alternative coordination mechanism to overcome supply chain fragmentation.

Synthesis

The research findings show that micro-enterprise supply chain effectiveness is determined not just by operational efficiency as explained in traditional Supply Chain Management theory, but by the local community's capacity to build coordination, trust, and collaboration among actors. In this context, the Community units functions as a local governance unit capable of reducing supply chain fragmentation through collective action and stakeholder collaboration. This finding expands the collaborative supply chain management perspective—which has been predominantly applied to large corporations—into the domain of local community-based micro-enterprises.

5. Novelty and Research Contribution

This study offers novelty in developing Supply Chain Management (SCM) strategies within the micro-enterprise domain via an Community units-based collaborative supply chain approach. This research builds an Community units-based SCM strategy that positions the Community Units as a local supply chain governance unit to integrate procurement, production, distribution, and information coordination for micro-businesses.

The novelty lies in developing a supply chain collaboration strategy that integrates communities units (*Rukun Warga*), multi-stakeholder collaboration, and micro-business sustainability into a single implementation framework. The developed strategy does not emphasize only the integration of material and information flows, but reinforces stakeholder

collaboration, collective action, and Community units institutional capacity as bedrock foundations for supply chain sustainability at the Community Units level.

These research findings expand the concept of collaborative supply chain management, which has been mostly limited to large corporations (Cao & Zhang, 2011), by establishing the Community units as a local supply chain governance unit integrating coordination, collective action, and stakeholder collaboration within the micro-enterprise arena.

Thus, this study provides a theoretical contribution to the concept of community-based collaborative supply chain management alongside a practical contribution as a strategy to reinforce micro-enterprise sustainability via Community units-based supply chain integration.

CONCLUSION

Primary Findings

Overall, this research demonstrates that the Community units functions not just as a social environment where micro-businesses operate, but can actively act as a local governance mechanism that integrates supply chain activities. Therefore, strengthening micro-enterprise supply chains must be directed toward community capacity building as a node for collaborative and sustainable local economic coordination. Strategy implementation is executed via coordination mechanisms across three core supply chain flows: raw material flows (upstream), production process flows (internal process), and distribution and information flows (downstream).

Theoretical Contributions

This study expands the perspective of Supply Chain Management within the micro-business context by positioning the community units as a local governance unit functioning to integrate coordination, distribution, and collaboration among business actors. This study contributes theoretically to the formulation of community-based collaborative supply chain management concepts and practically as a strategy to fortify micro-enterprise survival through community-embedded supply chains.

Practical Implications

The findings carry practical implications that can be utilized by business actors and local governments:

- For micro-enterprise actors, they are expected to initiate a management transformation from individual business models toward community-based collaborative models so that supply chains run more efficiently and sustainably.
- For local governments, micro-enterprise development policies should no longer treat businesses individually but adopt an Community units-based development approach.

Research Limitations

This study is limited to food industry micro-enterprises in Cimahi City; hence, generalizability must be handled carefully. Future research can test this strategy across different business sectors and geographic regions.

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