

## Development of A Collaborative Business Planning Model for Metal SMEs In Sukabumi District

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### ARTICLE INFO

**Submitted:** May 18<sup>th</sup>, 2025

**Revised:** June 16<sup>th</sup>, 2025

**Accepted:** October 19<sup>th</sup>, 2025

### Section:

Business and Management

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**ABSTRACT:** Increasing business competition necessitates innovative approaches to strategic planning, particularly among small and medium-sized enterprises (SMEs). This study introduces the Collaborative Business Planning (CBP) model, which differs from conventional approaches by embedding collaboration through synergy, transparency, and shared responsibility among business group members. Using a simplified Delphi method, consensus was obtained from experts and practitioners to identify key collaboration factors, design the CBP framework, and validate its structure. The model integrates expert consensus, strategic planning, and financial feasibility analysis to produce a comprehensive planning tool for business groups. Implementation of the CBP model in KUB *Mandiri Bersinergi* demonstrated substantial improvements in performance and cooperation. Financial assessments revealed a positive Net Present Value (NPV) and an Internal Rate of Return (IRR) exceeding 20 percent, confirming its economic viability. The study contributes a structured framework for strengthening collaboration, enhancing efficiency, and promoting sustainability within SMEs. The CBP model provides both a theoretical and practical foundation for collective business planning, offering strategic guidance for SMEs to manage collaboration effectively and achieve long-term competitive advantage.

**Keywords:** business planning, collaborative, Delphi method, sustainability, synergy

### INTRODUCTION

Technological modernization in Indonesia has significantly transformed the business landscape and intensified market competition (Mufaddhal, 2025). The rapid expansion of the business sector has led to the emergence of numerous enterprises competing for market share, thereby increasing competitive pressure (Jamaluddin, 2025). Within this context, collaborative enterprises such as cooperatives and small and medium-sized enterprises (SMEs) face unique challenges in formulating effective collective strategies that respond to dynamic market forces while managing their individual resource constraints (Siciliano & Thompson, 2022; Wang & Oscar, 2024). Industrial growth has compelled firms to enhance operational efficiency, stimulate product innovation, and optimize resource management in order to maintain competitiveness and deliver greater value to consumers (Abdulameer & Ibrahim, 2024). Enhancing the quality of products and services has consequently become a key determinant of business success in rapidly evolving markets (Parast & Safari, 2022).

Furthermore, shifts in consumer behavior and preferences necessitate that firms remain agile and responsive to changing market needs (Abdalla et al., 2025). Businesses are increasingly required to anticipate industry trends, adapt their operations, and employ strategic planning to maintain relevance and



competitiveness. Strategic business planning plays a crucial role in achieving these goals by linking short-term actions to long-term sustainability objectives. According to [Venugopal et al. \(2024\)](#), business planning serves as a comprehensive guide for both new and established enterprises by outlining organizational strategies, market positioning, and financial projections. It not only provides an operational blueprint but also functions as a key reference for investors in evaluating the viability of business ventures.

Conventional business planning typically includes an executive summary, organizational plan, marketing strategy, financial documentation, and supporting materials ([Dinc-Cavlak & Ozdemir, 2024](#)). Financial feasibility analysis, as part of this process, incorporates essential metrics such as Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period (PP), supported by sensitivity and risk analyses that assess the impact of critical variables on project viability ([Rajapakshe, 2025](#)). These components collectively inform strategic planning, resource management, and market development, which together determine the long-term success of an enterprise ([Cheng et al., 1994](#)). Despite the extensive study of these traditional structures, however, there remains a notable gap in business planning frameworks that specifically address multi-entity collaborations and joint business operations ([Siciliano & Thompson, 2022](#); [Wang & Oscar, 2024](#)).

In practice, many enterprises now operate within collaborative ecosystems rather than as isolated entities. This interdependence introduces greater complexity to the planning process, as it must balance the interests of multiple stakeholders, ensure equitable benefits, and build mutual trust among partners. Conventional business planning frameworks often fail to incorporate mechanisms that promote transparency, shared accountability, and consensus-based decision-making ([Dinc-Cavlak & Ozdemir, 2024](#)). Recent studies have emphasized that collaborative approaches enhance managerial effectiveness while fostering social and economic sustainability, particularly within SMEs and business networks ([Siciliano & Thompson, 2022](#); [Wang & Oscar, 2024](#)). Addressing these limitations requires the development of a model that explicitly integrates collaborative dynamics into the business planning process.

This study introduces the concept of Collaborative Business Planning (CBP), a framework designed to incorporate synergy, transparency, and shared responsibility among multiple business entities. The study aims to conceptualize and validate the CBP model through the Delphi method and to test its application using a business group case study. By doing so, it fills an existing gap in both theory and practice, providing a managerial instrument that supports collective decision-making and long-term sustainability. Through the CBP framework, collaborative business groups can evaluate the feasibility of partnerships across market, technical, financial, and organizational dimensions while reducing risks and strengthening trust through transparent communication. Ultimately, the CBP model is expected to enhance not only short-term efficiency but also the long-term sustainability and competitiveness of SMEs operating in collaborative environments.

## LITERATURE REVIEWS

The Delphi Method is a systematic and iterative process designed to achieve expert consensus through multiple rounds of questionnaires and controlled feedback ([Kalla et al., 2025](#)). Within the context of Collaborative Business Planning (CBP), the Delphi Method plays an essential role in synthesizing diverse perspectives among stakeholders, thereby ensuring that group decisions are grounded in collective expertise rather than individual bias. By incorporating this approach, CBP facilitates structured consensus-building on strategic priorities, operational mechanisms, and collaborative commitments. While previous studies have primarily employed the Delphi Method for forecasting and policy development, its application in multi-entity collaborative planning remains limited ([Hsu & Sandford, 2007](#); [Okoli & Pawlowski, 2004](#)). The CBP framework bridges this methodological gap by using the Delphi process to harmonize the objectives and capacities of small and medium-sized enterprises (SMEs), thereby enabling coherent and integrated business planning.

Traditional Business Planning functions as a comprehensive roadmap that outlines business objectives, market strategies, operational structures, and financial projections ([Hormozi et al., 2002](#)). Although this approach has proven effective for single-entity enterprises, it lacks mechanisms for coordinating shared interests and aligning multiple stakeholders within a collaborative context. Within CBP, the traditional business plan is reconceptualized as a collective framework that encourages all members to participate actively in setting goals, designing marketing strategies, and projecting financial outcomes. Whereas previous study has extensively analyzed individual business planning ([Hormozi et al., 2002](#)), few have addressed inter-

organizational alignment. The CBP model addresses this deficiency by introducing collaborative decision-making processes and mutual benefit strategies that promote inclusivity and joint accountability among participating enterprises.

Strategic Planning represents a fundamental component of organizational management, encompassing the identification of long-term objectives, allocation of resources, and assessment of performance outcomes (Mousa et al., 2024). In traditional contexts, strategic planning is typically executed through a top-down process dominated by managerial authority. By contrast, CBP transforms strategic planning into a participatory process wherein all members collaboratively define shared visions, establish priorities, and determine the allocation of resources. This participatory orientation ensures that operational decisions reflect collective interests rather than unilateral directives. While prior research has predominantly focused on individual strategic planning (Abdulameer & Ibrahim, 2024), the CBP framework extends this scholarship by emphasizing joint strategy formulation as a means to strengthen cohesion, enhance collective adaptability, and improve the overall competitiveness of business groups.

Marketing strategy development within CBP also incorporates the Segmenting, Targeting, and Positioning (STP) framework alongside the marketing mix, which includes product, price, place, and promotion (Keller, 2003). In conventional business contexts, these decisions are centralized and executed by a single management authority. In contrast, CBP involves all members in the STP process to ensure that marketing strategies are inclusive, transparent, and aligned with collective objectives. Joint participation mitigates potential conflicts arising from misaligned marketing interests and enhances market responsiveness. The integration of STP and marketing mix decisions within CBP represents a novel contribution to the literature, positioning these elements as central to fostering unified, market-driven strategies that reflect the shared vision of collaborative enterprises.

The effectiveness of CBP depends fundamentally on several Key Collaboration Factors, including trust, leadership, and open communication (Morrison-Smith & Ruiz, 2020). Trust serves as the foundation for inter-organizational cooperation and is cultivated through transparency and shared commitment among members. Leadership functions as the coordinating mechanism that ensures alignment of objectives and equitable role distribution, while open communication facilitates mutual understanding and the smooth exchange of information across the group. Although earlier studies have often examined these factors separately, this study integrates them within a single CBP framework, demonstrating their interdependence in achieving sustainable collaboration.

Overall, the literature indicates that conventional business planning approaches remain inadequate for managing the complexities of inter-entity collaboration. The CBP model responds to this limitation by incorporating the Delphi Method, adaptive business planning, participatory strategic formulation, STP-based joint marketing strategies, and the essential collaborative dimensions of trust, leadership, and communication. Through this integration, CBP establishes an inclusive, transparent, and synergistic framework that enhances the sustainability, efficiency, and competitiveness of group-based business performance.

## **METHODS**

This study employed the Delphi Method to develop the Collaborative Business Planning (CBP) model through a structured process of achieving expert consensus. The Delphi technique was selected for its systematic and iterative nature, which allows researchers to consolidate diverse expert opinions while minimizing the influence of dominant participants. By integrating perspectives from both academic and professional domains, this approach ensured that the resulting model was theoretically grounded and practically relevant.

The Delphi panel comprised five experts, including three academics specializing in business management and strategic planning and two practitioners representing operational contexts within small and medium-sized enterprises (SMEs). The number of participants was determined following the recommendations of Hsu & Sandford (2007) and Okoli & Pawlowski (2004) who suggest that Delphi panels ideally consist of five to twenty members, depending on topic complexity and expertise homogeneity. In this study, a smaller, highly knowledgeable panel was intentionally selected to facilitate in-depth discussions, enhance the accuracy of consensus, and reduce potential bias, while maintaining a balance between theoretical insight and practical experience.

The Delphi process followed four iterative rounds based on the framework of Lam et al. (2024). The first round involved open-ended brainstorming, during which panelists provided inputs on the key determinants of collaborative business planning. In the second round, responses were categorized and coded using ATLAS.ti software to identify major themes and subthemes. The third round focused on validation, where participants assessed the relevance, clarity, and significance of the identified factors. The fourth and final round was dedicated to consensus building, and only statements achieving a minimum of seventy-five percent agreement were incorporated into the final CBP model.

Following the Delphi process, the developed CBP model was tested through a case study conducted at KUB *Mandiri Bersinergi*, a collaborative business group located in Sukabumi Regency, West Java, Indonesia. This case was purposively selected because of its operational relevance and suitability for examining the practical application of the CBP framework. KUB *Mandiri Bersinergi* operates within the metal manufacturing and advertising services sectors, providing products such as neon boxes, billboards, canopies, iron fences, and 3D lettering. Its collaborative structure, characterized by joint decision-making, resource sharing, and collective marketing strategies, made it an ideal context for assessing the applicability and feasibility of the CBP model. The diversity of its production capacities, product specializations, and member participation also allowed a comprehensive evaluation of the model's performance under real-world conditions.

This study adopted a mixed-methods approach by integrating qualitative and quantitative analyses. Qualitative analysis was conducted through thematic coding of expert responses using ATLAS.ti to identify key themes, interrelationships, and conceptual patterns that shaped the development of the CBP framework. Quantitative analysis was subsequently performed to evaluate the financial feasibility of implementing CBP at KUB *Mandiri Bersinergi* using four standard financial indicators: Net Present Value (NPV), Internal Rate of Return (IRR), Profitability Index (PI), and Payback Period (PP).

The financial indicators were calculated using the following formulas:

$$NPV = \sum_{t=0}^n \frac{A_t}{(1+k)^t}$$

where  $A_t$  represents annual cash flow,  $k$  is the discount rate, and  $t$  denotes the period number.

$$PI = \frac{\text{Net Cash Present Value}}{\text{Initial Outlay}}$$

$$IRR = i_1 + \left( \frac{NPV_1}{NPV_1 - NPV_2} \right) (i_2 - i_1)$$

where  $i_1$  and  $i_2$  correspond to discount rates producing positive and negative NPVs respectively.

$$PP = \frac{\text{Cumulative Cash Flow at Last Negative Period}}{\text{Net Cash Flow in the Following Period}}$$

These indicators were used to determine financial feasibility: projects with a positive NPV, a PI greater than one, an IRR exceeding the minimum attractive rate of return, and a shorter Payback Period were considered economically viable. Integrating qualitative and quantitative findings enabled both theoretical validation and empirical substantiation of the CBP model, ensuring that it was not only conceptually robust but also financially practical for SMEs.

To ensure methodological rigor, several procedures were implemented throughout the research process. The selection of experts followed purposive sampling to guarantee that all participants possessed substantial academic and professional experience related to business collaboration, strategic planning, and SME operations. The use of a four-round Delphi design was considered optimal to reach consensus while preventing participant fatigue commonly observed in extended iterations. The consensus threshold of seventy-five percent was adopted to ensure that only widely agreed-upon factors were included in the final framework. Triangulation between qualitative insights, quantitative validation, and case study results further enhanced the credibility and reliability of the findings.

KUB *Mandiri Bersinergi* consists of three core management members and fifteen regular members engaged in the production and service of metal-based products and advertising materials. Its business operations are characterized by collaborative decision-making, shared resources, and joint marketing strategies. These conditions created an appropriate setting for the empirical testing of the CBP model.

To capture expert insights systematically, five informants were purposively selected according to their relevance and expertise in the study area. Three were academics specializing in entrepreneurship, technology management, and organizational strategy, while two were experienced business practitioners managing SMEs. Table 1 presents the profile of the Delphi panellists.

**Table 1.** Panellists Profile

Code	Background	Role	Expertise / Experience
INF-A1	Academic	Expert Panel	Lecturer in People and Knowledge Management – ITB
INF-A2	Academic	Expert Panel	Lecturer in Entrepreneurship and Technology Management – ITB
INF-A3	Academic	Expert Panel	Lecturer in Entrepreneurship Strategy – UPI
INF-P1	Practitioner	Expert Panel	Business Owner, Fama Bengkel Las
INF-P2	Practitioner	Expert Panel	Business Owner, Rintis Mandiri Jaya

The inclusion of both academic and practitioner perspectives provided a balanced foundation for developing a CBP framework that is theoretically sound, contextually relevant, and practically implementable within SME collaborative environments.

## RESULTS AND DISCUSSION

### Delphi Findings

The first stage before model development is creating a list of questions. The topics used in the question list fall within the scope of business planning theory and collaborative activities. This list of questions is used as interview material for five respondents, consisting of three academics in the field of management and two business practitioners engaged in collaborative activities. The respondents' answers are collected and processed into interview transcripts before conducting qualitative data analysis. In the qualitative data analysis process, coding is performed to reduce words and highlight the essence of the interview results for the readers. The main topics of the respondents' answers can be seen in Table 2.

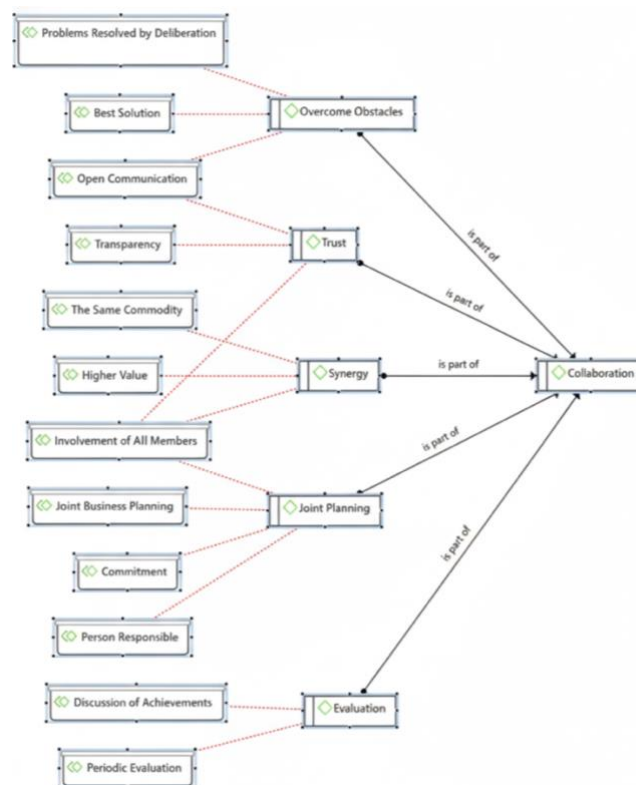
**Table 2.** Participant Statements

Topic	Participant				
	Academics			Practitioner	
	INF-A1	INF-A2	INF-A3	INF-P1	INF-P2
Business Planning is designed together (Pradabwong et al., 2017)	√	√	√	√	√
Person responsible (Quick & Feldman, 2024)	√	√	√	√	√
Involvement of all members (Siciliano & Thompson, 2022)	√	√	√	√	√
Commitment (Han, 2021)	√	√	√	√	√
Synergy (Kemp, J. T., Kline & Bettencourt, 2023)	√	√	√	√	√
Same commodity (Feng & Li, 2021)	√	√	√		
Higher value (Johnson et al., 2014)			√		

Trust (Vangen & Huxham, 2003)	√	√	√	√	√
Open communication (Hastings, 2014)	√	√	√	√	√
Transparency (Albu & Flyverbom, 2019)	√	√	√	√	√
Problems are resolved through deliberation (Kiernan et al., 2019)	√	√	√	√	√
The best solution (Delgadillo, 2017)	√	√	√	√	√
Periodic Evaluation (Woodland & Hutton, 2012)	√	√	√	√	√
Discussion of Achievements (Woodland & Hutton, 2012)	√	√	√	√	√

Next, an analysis is conducted to group the coding or labeling results and examine the relationships between data groups, where the final outcome of the analysis is presented in a mind map. On the left side of the mind map, there are smaller topics or subtopics that contribute to forming a larger topic. The topic in the center of the mind map represents the main topic, while the right side contains the key subject matter.

For example, in collaboration, there should be a major topic that includes joint business planning, synergy, trust among members, addressing challenges collectively, and conducting evaluations. Furthermore, joint planning consists of smaller topics such as responsibility, commitment, and the involvement of each member. Synergy in collaboration should exist within the same commodity and aim for higher value compared to working individually. Other variables can be seen in the figure 1.



**Figure 1.** Mind Mapping Result  
Source: Atlas.ti

The findings of this study reveal five key factors joint business planning, synergy, trust, collective problem-solving, and periodic evaluation that serve as the foundation for establishing effective collaboration within the development of Collaborative Business Planning (CBP) models. Joint business planning in the

context of collaboration involves multiple parties working together toward shared objectives by identifying goals, selecting strategic partners, formulating operational strategies, and distributing responsibilities. A well-structured planning process allows all members to participate actively in shaping business strategies, market positioning, and operational frameworks, thereby fostering stronger engagement and minimizing potential conflicts. This participatory approach aligns with the findings of [Pradabwong et al. \(2017\)](#) and [Siciliano & Thompson \(2022\)](#), who argue that collaborative planning processes enhance decision-making, collective accountability, and sustainability by ensuring equal participation from all stakeholders.

Furthermore, synergy emerges as an essential factor when collaborative partners combine resources, expertise, and networks to generate higher value compared to operating individually. Within the CBP model, synergy is achieved through coordinated production scheduling, integrated marketing strategies, and optimized resource allocation, resulting in greater competitiveness and operational efficiency. This finding supports [Kemp, J. T., Kline & Bettencourt \(2023\)](#), who emphasize that collaborative networks outperform independent operations when partners leverage complementary strengths and pursue integrated strategies.

Trust also plays a fundamental role in sustaining effective collaboration. In CBP implementation, trust is cultivated through open communication, transparency, and active member involvement, supported by practices such as transparent financial reporting and information sharing. Consistent with [Vangen & Huxham \(2003\)](#), trust facilitates the willingness of stakeholders to share resources and assume risks collectively, thereby enhancing long-term stability. Moreover, the Delphi findings indicate that trust functions not only as an outcome of successful collaboration but also as a prerequisite for effective decision-making, especially when sensitive financial and operational data are involved.

Equally important is collective problem-solving, which serves as a mechanism to overcome barriers within collaborative arrangements. Challenges such as capacity constraints, market fluctuations, and resource allocation are addressed through inclusive discussions, consensus-building forums, and joint decision-making processes. This participatory approach, consistent with [Kiernan et al. \(2019\)](#), strengthens relational ties among members, reduces conflict, and promotes operational resilience by ensuring that solutions are derived collectively rather than imposed hierarchically.

Lastly, periodic evaluation plays a critical role in maintaining alignment between collective goals and operational performance. Within the CBP framework, regular assessments such as member satisfaction surveys, financial feasibility reviews, and operational performance analyses enable stakeholders to measure progress and identify areas for improvement. As highlighted by [Woodland & Hutton \(2012\)](#), systematic evaluation mechanisms enhance accountability and adaptive learning, fostering continuous improvement and reinforcing trust among members. Over time, these iterative assessments support the sustainability and scalability of collaborative business models.

Collectively, these findings align with the theoretical framework proposed by [D'Amour et al. \(2005\)](#), which emphasizes three dimensions of effective collaboration: interpersonal, organizational, and systemic. In this study, interpersonal factors are reflected through trust and open communication, organizational dimensions are embodied in joint planning and synergy, while systemic mechanisms are operationalized through periodic evaluation and problem-solving strategies. By integrating these dimensions into the CBP framework, this research advances the understanding of collaborative business models, particularly within the context of small and medium-sized enterprises (SMEs), where resource constraints often necessitate cooperative approaches. Moreover, these findings extend existing literature by demonstrating how CBP bridges the gap between traditional business planning and collaborative strategic management. Unlike conventional business planning, which focuses on single-firm objectives, CBP introduces a collective paradigm grounded in transparency, mutual benefit, and joint decision-making, ultimately enhancing operational efficiency, competitiveness, and long-term resilience in dynamic market environments.

The following is a summary of the differences between the Business Planning and Collaborative Business Planning methods along with the development of the models that will be carried out, which can be seen in table 3.

### **Difference between Business and Collaborative Business Planning**

The comparison between traditional Business Planning and Collaborative Business Planning (CBP), as presented in Table 3, highlights a paradigm shift from an individual-centered planning approach toward a collective and collaborative model. In terms of market and marketing aspects, conventional Business Planning tends to centralize decision-making within the owner or top management, resulting in a top-down

and unilateral strategy formulation. In contrast, CBP emphasizes the active involvement of all group members in jointly formulating market strategies, including segmentation, targeting, positioning, and the development of the marketing mix. This participatory approach ensures that marketing decisions are more inclusive, accurate, and aligned with current market dynamics.

**Table 3.** Differences between Business Planning and Collaborative Business Planning

Aspect	Methods / Procedures in Business Planning (Single Business)	Model development carried out	Result
Market and Marketing	Marketing planning activities are carried out by a business and decided by the owner/top management.	Depending on group policy, it is carried out by the person in charge or by all members.	Market planning and marketing procedures for group leaders and all members.
Technical/Operational	Technical/operational planning activities are only for one business venture and are decided by the owner/top management.	Technical/operational planning takes into account the distribution of member capacity and incoming requests.	Technical planning procedures based on member demand and production capacity
Organization	Organizational planning is carried out by a business enterprise and decided by the owner/top management.	Organizational planning is regulated by mutual agreement.	Collaborative organizational planning procedures.
Legal and Environmental	Obligations of the company concerned	Joint obligations	Procedures for fulfilling legal requirements and commitment to preserving the environment.
Finance	Profits are only earned by one business venture.	Capital comes from cumulative capital collected from members and profits are distributed to members.	Financial feasibility analysis for each collaborating group member.

From a technical and operational perspective, traditional Business Planning focuses on a single business unit's capacity and resources, where decisions are determined exclusively by the business owner. Conversely, CBP integrates the production capacity of all members into the planning process, enabling workload distribution based on each member's capabilities. When market demand exceeds the capacity of one member, production can be shared among others, optimizing resource utilization and improving overall efficiency. This demonstrates that CBP fosters operational synergy and collaborative problem-solving.

Regarding organizational structure, traditional Business Planning typically defines organizational frameworks, job divisions, and workforce requirements unilaterally. CBP, on the other hand, prioritizes consensus-based discussions to design organizational structures, assign responsibilities, and develop training programs collectively. This inclusive approach fosters a stronger sense of ownership among members and enhances coordination effectiveness within the group.

In legal and environmental aspects, conventional Business Planning places the responsibility for regulatory compliance solely on individual enterprises. CBP, however, manages licensing, business legality, and environmental documentation collectively, which streamlines administrative processes and strengthens the group's commitment to sustainable business practices.

The financial aspect also marks a significant distinction between the two approaches. In traditional Business Planning, capital and profits are entirely owned by a single entity, whereas CBP pools capital from all members and distributes profits proportionally based on contributions or mutual agreements. This mechanism not only enhances financial strength but also reduces individual risk exposure and ensures fairer profit sharing among members.

Overall, Collaborative Business Planning (CBP) provides substantial added value compared to conventional Business Planning. The collective involvement of all members promotes higher transparency and accountability, while inter-member synergy optimizes resource utilization and expands market opportunities. Furthermore, CBP strengthens group competitiveness by fostering innovation through the exchange of knowledge and experience among members. Joint capital accumulation and proportional risk sharing make the collaborative model more financially resilient, while open communication, periodic evaluations, and a shared commitment to sustainability ensure long-term stability and business continuity. Consequently, CBP does not merely enhance the effectiveness of business planning but also establishes a solid foundation for inclusive growth, adaptability, and sustainable development within collaborative business groups.

### Model Development Design

The development of the Collaborative Business Planning (CBP) model is designed to address the limitations of conventional business planning, particularly for small and medium-sized enterprises (SMEs) operating within collaborative business groups. Traditional business planning focuses primarily on a single-entity approach, where decision-making, resource allocation, and strategic planning are centralized within individual enterprises. However, this approach becomes less effective when businesses operate in a collaborative environment where resources, risks, and objectives are shared among multiple members.

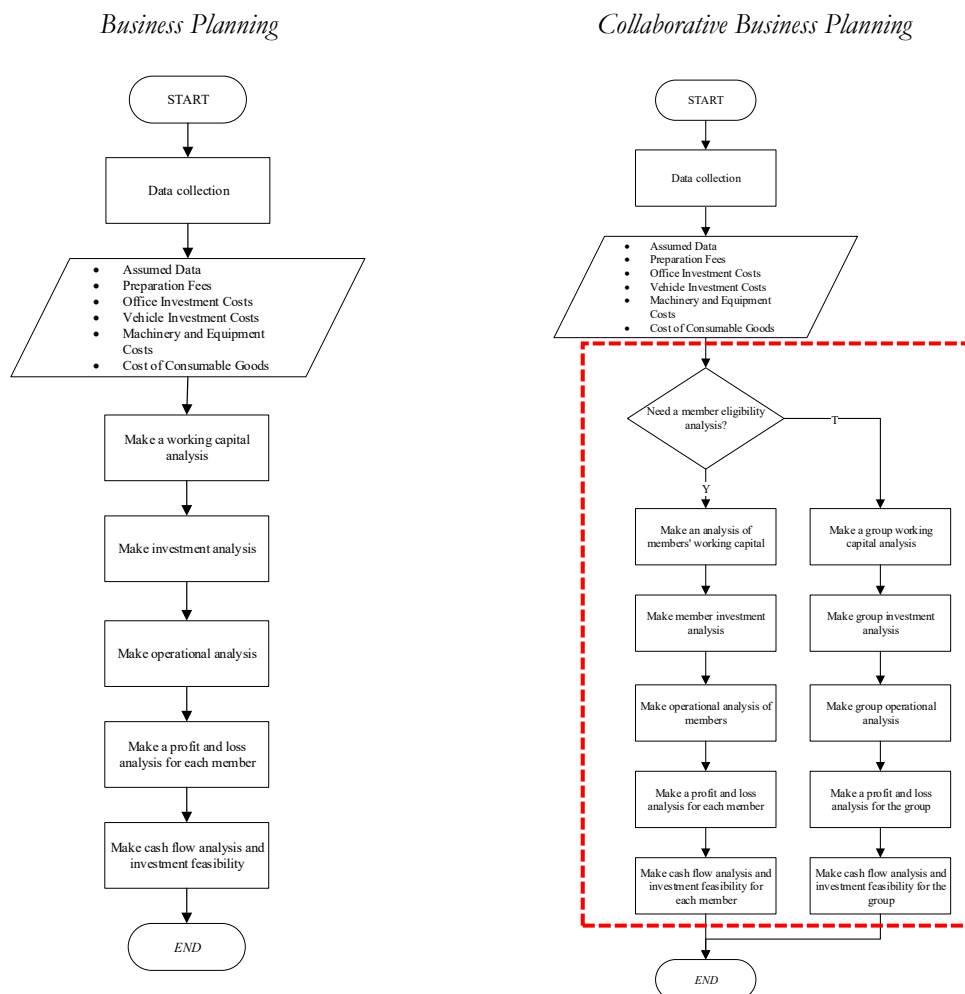
The CBP model was developed to integrate participatory decision-making, transparency, and synergy into a unified planning framework. By involving all members in every stage of planning covering market strategies, technical and operational procedures, organizational structures, legal compliance, and financial feasibility the model enhances collective ownership, optimizes resource utilization, and improves business competitiveness. The model design emphasizes joint planning, shared responsibility, and trust-building mechanisms, which are essential for ensuring sustainable collaboration and long-term business growth.

**Table 4.** Development Design Model Comparison

Aspect	Business Planning	Collaborative Business Planning (CBP)	Key Improvement in CBP
Market & Marketing	Marketing strategy is designed by top management only, focusing on individual targets.	Marketing strategy is formulated collectively, involving all members in STP, positioning, and marketing mix.	Increases inclusivity, transparency, and market adaptability.
Technical / Operational	Planning is based on individual capacity and decisions made by the owner.	Considers collective production capacity, optimizes workload distribution, and applies a queuing system when needed.	Enhances efficiency and maximizes resource utilization.
Organization	Organizational structures, roles, and training are decided unilaterally.	Structures, job divisions, and capacity-building programs are designed collaboratively through mutual agreements.	Strengthens sense of ownership and coordination.
Legal & Environmental	Regulatory compliance is managed individually by each business.	Licensing, business legality, and environmental permits	Simplifies administrative processes and ensures sustainability.

		are handled collectively to ensure compliance.
Financial	Capital and profits belong solely to individual entities.	Capital is pooled from members, profits are distributed proportionally, and financial feasibility is analyzed collectively. Strengthens funding capacity and reduces financial risk.

To provide a clearer understanding of the model development process, Figure 2 presents the flowchart for the financial aspect as an illustrative example representing the procedures applied across other dimensions of Collaborative Business Planning (CBP). This flowchart demonstrates how financial data from all members are consolidated, analyzed, and utilized to design a comprehensive financial feasibility assessment. The process includes capital pooling, cost allocation, profit distribution, and the evaluation of financial performance indicators such as Net Present Value (NPV), Internal Rate of Return (IRR), Profitability Index (PI), and Payback Period (PP). Although the figure highlights the financial aspect, similar structured procedures are also implemented in the development of other aspects, including market and marketing, technical and operational, organizational, as well as legal and environmental dimensions.



**Figure 2.** Flowchart for Developing a Financial Feasibility Analysis Model  
Source: Data Processed by the author, 2025

The first step in the feasibility analysis of the financial plan is to collect data for the analysis report. If the analysis is required per member, an individual report is made, while for groups a collective analysis is used. In the report, the analysis of working capital, investment costs, and operating costs is carried out according to the general format. The model is developed through profit and loss and cash flow analysis, with the EBIT variable divided based on the proportion of member capital. The capital proportion table per individual is needed to evaluate profit and loss and depreciation. The results of the model development show the NPV value of collaboration and the same IRR, PI, and PP outputs between members and groups, showing financial feasibility.

Table 5 illustrates the Net Present Value (NPV), Profitability Index (PI), Internal Rate of Return (IRR), and Payback Period (PP) for both traditional business planning and collaborative business planning approaches.

**Table 5.** Results of Financial Feasibility Indicators

Indicators	Group	Each Member	Conclusion	Result
NPV	Rp110,420,263	Rp6,134,459	$\sum_{t=0}^n NPV_{for\ the\ group} = NPV_{of\ each\ member}$	NPV > 0 (Feasible)
PI	1,36	1,36	PI <sub>for the group</sub> = PI <sub>of each member</sub>	PI > 1 (Feasible)
IRR	27,39 %	27,39 %	IRR <sub>for the group</sub> = IRR <sub>of each member</sub>	IRR > MARR (Feasible)
PP	5 Years, 1 Months, 17 Days	5 Years, 1 Months, 17 Days	PP <sub>for the group</sub> = PP <sub>of each member</sub>	Net B/C Ratio ≥ 1 (Feasible)

The financial feasibility analysis begins with the preparation of the income statement, which records total sales revenue minus production costs, operating expenses, and depreciation, resulting in net income. This net income then serves as the basis for constructing the cash flow statement, where non-cash components such as depreciation are added back to obtain the annual net cash flow. Subsequently, these cash flows are used to calculate the key financial feasibility indicators.

NPV (Net Present Value) is calculated by discounting all net cash flows at a predetermined discount rate and comparing them with the initial investment. PI (Profitability Index) is obtained by dividing the present value of cash inflows by the total investment, indicating the efficiency of capital utilization. IRR (Internal Rate of Return) is determined by identifying the discount rate at which the NPV equals zero, reflecting the internal rate of return on the investment. Meanwhile, the PP (Payback Period) shows the length of time required for cumulative net cash flows to recover the initial investment.

The results of these four indicators are then presented in a comparative table, distinguishing between traditional business planning and Collaborative Business Planning (CBP). If the NPV is positive, the PI is greater than 1, the IRR exceeds the discount rate, and the PP is relatively short, the project is considered financially feasible.

The results of applying the five aspects can be described in sequence. In terms of the market and marketing plan, the process was conducted collectively by all members, drawing upon market data and segmentation to formulate strategies. The marketing approach was designed using the STP framework (Segmenting, Targeting, Positioning) and the marketing mix elements of product, price, place, and promotion, with every decision made through consensus.

Moving to the technical and operational plan, production activities were organized based on the capacity of each member. When market demand exceeded the capacity of a single member, production responsibilities were shared across the group. Conversely, when demand was relatively low, a queuing system was implemented to ensure that production remained efficient and balanced among members.

The organizational plan was also developed collaboratively, beginning with the establishment of a structure that defined clear divisions of tasks and responsibilities. Training programs were introduced to

strengthen member competencies, while full participation and shared commitment formed the foundation for building an effective and sustainable organization.

Legal and environmental aspects were managed in a similarly collective manner. All members were required to hold valid business legality documents such as the NIB, while licensing and environmental documentation, including SPPL, were administered together. This approach not only demonstrated compliance with regulations but also reflected a shared responsibility for environmental stewardship.

Finally, in the financial plan, feasibility was analyzed using the indicators of NPV, IRR, PI, and PP at both the individual and group levels. The results confirmed that the collaborative model was financially viable, showing that the initiative could generate sustainable economic benefits while ensuring fair distribution of returns among all participating members.

### **Model Implementation**

The implementation of Collaborative Business Planning (CBP) in KUB *Mandiri Bersinergi* began with the market and marketing aspect, where all members were collectively involved in the planning process. Demand and supply analysis, forecasting, and the Segmenting, Targeting, Positioning strategy were not solely the responsibility of the core management but were instead decided collectively through member consensus. This approach ensured that the marketing strategy reflected the real needs and conditions of the group.

In the technical and operational aspect, production capacity planning was adjusted according to market demand. When demand was high, the production capacities of each member were combined to meet the target, while in periods of low demand, a scheduling system was applied so that production was carried out alternately. This mechanism provided efficiency in resource utilization while maintaining production continuity.

From an organizational perspective, KUB *Mandiri Bersinergi* established an organizational structure designed through collective agreement. Task distribution was clarified through job descriptions and job specifications and further supported by training programs to enhance member competencies. This ensured that each individual's role was carried out effectively, thereby strengthening the group's collaboration.

Legal and environmental aspects were also given significant attention in the CBP model. Each member was required to meet legal requirements, such as obtaining a business identification number (NIB), as well as complying with regulations related to environmental management. Responsibility for legal compliance and environmental sustainability was no longer individual but shared collectively among all members.

From the financial perspective, business capital was pooled from member contributions, and profits were distributed proportionally according to the capital invested. Financial management was carried out transparently, with reports prepared for both the group as a whole and for each individual member.

The results of the financial feasibility analysis showed that the application of CBP in KUB *Mandiri Bersinergi* offered promising prospects. The Net Present Value (NPV) was positive, indicating that the business generated returns exceeding its capital costs. The Internal Rate of Return (IRR) was higher than the discount rate, suggesting an attractive rate of return. The Profitability Index (PI) was greater than one, meaning that each unit of capital invested created additional value. Furthermore, the Payback Period was relatively short, reducing the risk of investment. Notably, these results were consistent not only at the group level but also at the individual member level.

Thus, the implementation of Collaborative Business Planning in KUB *Mandiri Bersinergi* not only strengthened operational synergy and improved efficiency but also proved to be financially feasible in supporting long-term business growth.

### **Discussion**

In the context of business collaboration, trust, transparency, and communication serve as the fundamental pillars that determine the success of partnerships. Trust among members fosters strong relationships, where each party is confident that their contributions and commitments are valued and not misused. Transparency supports this by ensuring openness in the disclosure of information, profit-sharing, and risk management, thereby reducing potential conflicts and suspicions. Meanwhile, effective communication functions as a bridge that connects aspirations, needs, and challenges of each member. Without open communication, coordination becomes difficult, and minor issues may escalate into major obstacles. Thus, these three factors

are not merely supporting elements but essential requirements for collaboration to run smoothly, fairly, and mutually beneficial.

Collaborative Business Planning (CBP) makes a tangible contribution to both efficiency and sustainability within business groups. From the efficiency perspective, CBP enables the integration of resources and production capacity across members, allowing market demand to be met optimally without overburdening a single party. The system also encourages clearer distribution of responsibilities, resulting in more structured operations with minimal overlap. From the sustainability perspective, CBP strengthens long-term synergy among members by establishing mechanisms for regular evaluation, fair profit-sharing, and adaptive planning in response to market changes. As a result, businesses not only gain short-term economic benefits but also build a solid foundation for long-term growth and resilience. In other words, CBP is not merely a managerial tool but also a collective strategy that integrates financial, social, and organizational aspects to achieve inclusive business sustainability.

This study reinforces the theory of collaboration that has been extensively discussed in the literature. D'Amour et al. (2005) highlight three main factors influencing collaborative effectiveness, namely interactional, organizational, and systemic factors. The findings of this study align with that framework, showing that trust, open communication, leadership, and external environmental support are essential elements for the success of Collaborative Business Planning (CBP). Furthermore, (Kemp, J. T., Kline & Bettencourt (2023) emphasize the importance of synergy in business cooperation. The results of this study demonstrate that CBP is able to foster synergy among business group members through the distribution of production capacity and shared resource management. This is consistent with Kemp et al.'s view on the added value generated through collaboration. In addition, [Vangen & Huxham \(2003\)](#) underline the critical role of trust as the foundation of collaboration. In the context of this study, transparency in financial management and open communication among members serve as practical mechanisms to build and sustain trust.

The main difference between this study and the conventional business planning literature lies in the model's focus. Traditional business planning is generally designed for a single business entity and tends to emphasize internal aspects of the company, such as marketing, finance, and operations. In contrast, Collaborative Business Planning (CBP) is oriented toward business groups consisting of multiple members. CBP emphasizes not only internal efficiency but also collective needs through consensus-building, role distribution, and regular evaluation. Thus, this model fills a gap in the literature that has rarely addressed business planning in a multi-entity context, while offering a framework that is more adaptive to the dynamics of collaboration among small and medium-sized enterprises (SMEs).

The implementation of the Collaborative Business Planning (CBP) model provides tangible benefits for cooperatives, SMEs, and joint ventures in strengthening competitiveness and improving business efficiency. For cooperatives, CBP fosters financial transparency, clearer distribution of responsibilities, and a fair profit-sharing mechanism, thereby reinforcing solidarity among members. For SMEs, this model helps overcome resource limitations by integrating production capacity, marketing, and distribution, enabling SMEs to meet larger market demands, expand networks, and enhance competitiveness in the face of global competition. Meanwhile, for joint ventures, CBP serves as a collaborative framework that emphasizes mutual agreement, open communication, and comprehensive financial feasibility analysis. In this way, CBP minimizes the risk of conflict, strengthens synergy among partners, and ensures long-term business sustainability.

From a policy perspective, the application of CBP for business groups in Indonesia offers a new direction in shaping economic development strategies based on collaboration. The government can encourage the establishment of regulations that support collaborative business planning mechanisms, providing cooperatives and joint business groups with standardized guidelines for managing partnerships. Furthermore, policies related to financing access and incentives need to be strengthened, for instance through group-based financing schemes that consider CBP analysis results as a basis for feasibility, or through fiscal incentives and subsidies for collaborative enterprises. In addition, capacity building for human resources is a crucial aspect, where training on collaborative management, financial analysis, and digitalization can be facilitated by the government or related institutions. More broadly, integrating CBP into industrial cluster development policies and national supply chains will strengthen the position of business groups, enabling them not only to operate at the local level but also to connect with regional and global markets.

This study has several limitations that need to be acknowledged. First, the number of Delphi participants was relatively small, which limited the scope of perspectives and consensus obtained from the experts. This may have affected the breadth of insights in developing the Collaborative Business Planning (CBP) model. Second, the study was conducted using a single case study, namely the *Mandiri Bersinergi* Joint Business Group. Therefore, the findings may not fully represent the diversity of conditions in other business groups with different characteristics. Third, the study did not include cross-sector validation. As a result, the findings regarding financial feasibility and collaborative aspects cannot yet be generalized to other industries with different dynamics.

In light of these limitations, future research is recommended to involve a larger number of Delphi participants so that the consensus obtained becomes more comprehensive and representative. Furthermore, subsequent studies should expand the scope of case studies by comparing multiple business groups across different sectors to capture the variation in CBP implementation. Cross-sector validation is also necessary to ensure that the developed model can be tested more broadly, whether in the manufacturing, services, or other sectors. In this way, the further development of the CBP model is expected to be not only contextually relevant but also widely applicable, thereby contributing to sustainable business collaboration practices.

## **CONCLUSION**

This study successfully developed and tested the Collaborative Business Planning (CBP) model as an alternative business planning approach better suited for collaborative business groups. The findings confirm that the model is feasible across all analyzed aspects, including market, operational, organizational, legal, and financial dimensions. Financial testing using NPV, IRR, PI, and PP indicators further validates that the implementation of CBP delivers tangible economic benefits both at the individual member level and at the collective group level.

In terms of contributions, this research provides three key implications. First, the theoretical contribution lies in extending the business planning framework into a collaborative context, which has been rarely addressed in previous studies. Second, the practical contribution is the provision of a validated framework that can serve as a reference for cooperatives and SMEs in Indonesia to enhance the effectiveness of collaboration. Third, the policy contribution offers a managerial instrument to support the sustainability of business groups through systematic planning and evaluation mechanisms.

Based on these findings, the study recommends several implementation steps, namely strengthening financial literacy through structured training, establishing trust-building mechanisms among members, and developing standardized evaluation procedures. These measures are expected to enhance the effectiveness of CBP in practice and reinforce the foundations of sustainable collaboration.

For future research, it is recommended to conduct cross-industry comparative analyses, longitudinal studies to monitor long-term CBP implementation, and integration of the model with digital collaboration platforms. In this way, CBP has the potential not only to remain relevant at the local level but also to evolve into a collaborative planning model adaptable to broader industrial and technological changes.

## **AUTHOR CONTRIBUTIONS**

The Authors contributed equally.

## **FUNDING**

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## **CONFLICT OF INTEREST**

The authors declare that there is no conflict of interest regarding the publication of this paper

## **DATA AVAILABILITY**

The qualitative data supporting the findings of this study consist of interview transcripts, observation notes, and documentary materials obtained from government sources. To protect participant confidentiality, these data are not publicly available. Anonymized excerpts of transcripts or other materials may be made available upon reasonable request to the corresponding author.

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