

Guidelines of Business Alliance Development for a Competitive Advantage in the Digital Era

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Abstract

This research aims to examine the approach to developing business alliances to create a competitive advantage in the digital era. The focus is on building Structural Equation Models (SEM) for developing industrial entrepreneurs. The research concept framework consists of one external variable, the Benefits Management element, along with three internal variables: Resource Management, Data Management, and Conflict Management elements. This study utilizes a combination of qualitative research methods, including in-depth interviews with 9 professionals and group conversations with 11 successful entrepreneurs. Quantitative research involved a survey using a company executive questionnaire with 500 consecutive 3-year business partner development guidelines. The results revealed partnerships in small-medium enterprises and large enterprises, with 250 respondents from each group. The study identified four elements of high importance in creating a competitive advantage through business partner development guidelines. The developed SEM aligns with empirical data, incorporating 28 observed variables across all five elements. The hypothesis test results showed that the causal influence between latent variables in the SEM model was supported at a statistically significant level of 0.001. This research will benefit the industry sector by enhancing workforce readiness, resource management, and addressing benefits and conflicts within alliance groups. This approach enables more efficient resource sharing, the development of competitive advantages, the promotion of innovation, and broader market access.

Keywords,

Business Alliance, Competitive Advantage, Benefits Management, Data Management, Conflict Management, Resource Management

1. Introduction

The manufacturing sector is a major part of Thailand's economic revenue. In 2013, agricultural and industrial goods generated revenue from exports of Baht 8,482 trillion, or US \$246.43 trillion. However, the growth rate of exports in the manufacturing sector from 2019-2023 has shown a negative trend due to the impact of the COVID-19 pandemic during 2019-2020. Subsequently, although exports have increased, export growth has been steadily declining since 2021-2023 (Wang et al., 2023). Considering the Producer Price Index (PPI) in Thailand, a value that reflects the rising price of goods due to economic factors such as labor costs, raw material costs, etc., the period from 2019-2023 has shown higher index values, indicating higher production costs. This poses a disadvantage in terms of competitiveness, especially for entrepreneurs in other countries who have lower cost management capabilities

and lower product pricing. The Business Alliance Strategy is one of the strategies that can help Thai businesses become more competitive, keep up with global trends, and create new business opportunities (Kwilinski et al., 2023; Hokmabadi et al., 2024). The coupling and coordination degree of digital business and digital governance in the context of sustainable development. As marketing expert once said, "If you are going to be an effective competitor, you must also be an effective cooperator. You are not a solo business but a partnership, a network, an extended enterprise." However, implementing the Business Alliance Strategy in Thailand presents challenges to the competence of organizations, as evidenced by an article by Chen et al. (2021). A survey of 101 entrepreneurs who implemented the business alliance strategy over a 5-year period (2019-2021) found that entrepreneurs are more likely to encounter problems, as shown in Figure 1.

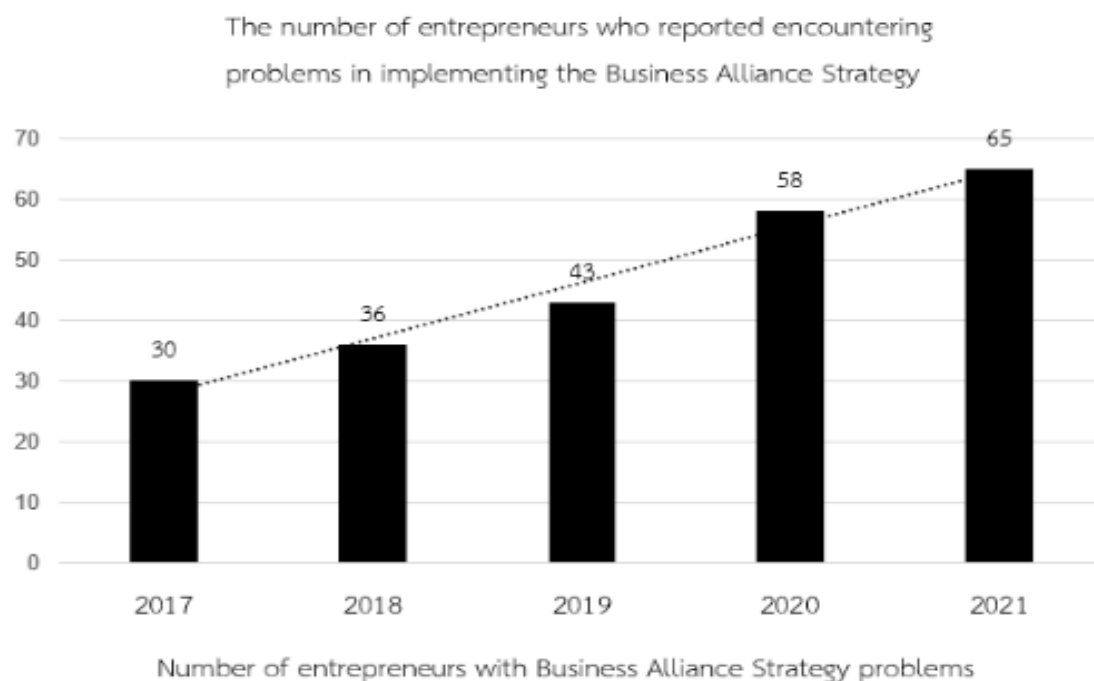


Fig 1: Reports the number of entrepreneurs who reported encountering problems in implementing the Business Alliance Strategy from 2017-2021.

Structural Equation Models (SEM) refer to a statistical technique used to analyze complex relationships between observed and latent variables, helping researchers understand how different management elements influence competitive advantage. Resource Management involves the efficient and effective allocation and utilization of organizational resources, such as human, financial, technological, and physical assets, enabling partners in a business alliance to share strengths and enhance performance. Business Alliance Strategy is a collaborative approach where two or more organizations work together to achieve mutually beneficial goals, often through partnerships or joint ventures, allowing them to pool resources, share risks, and enhance their competitive position in the market, particularly in the context of the digital era.

Entrepreneurs implementing the Business Alliance Strategy encountered several specific challenges, including communication issues, trust deficits, cultural differences, resource disparities, conflict resolution difficulties, and alignment of goals. To address these challenges, businesses can establish regular communication channels to ensure alignment on objectives, foster trust through transparency and clear agreements, and conduct cultural assessments to appreciate diverse working styles. Additionally, clearly defining contributions can help balance resource disparities, while formal conflict resolution mechanisms, such as mediation processes, can guide constructive dialogue during disagreements. Regularly revisiting partnership goals through joint strategic planning sessions can further ensure that all partners stay focused on shared objectives, ultimately enhancing the success of their alliances and improving competitiveness in the market.

Therefore, the purpose of this study is to explore guidelines for the implementation of the industry group's alliance strategy to achieve a common goal and be able to achieve competitive advantage. Focusing on (1) analyzing the structure and operational characteristics of the Guidelines of Business Alliance Development for a Competitive Advantage in the Digital Era. (2) Examining the elements of the Guidelines of Business Alliance Development for a Competitive Advantage in the Digital Era. And (3) constructing a structural equation model for the Guidelines of Business Alliance Development for a Competitive Advantage in the Digital Era. The importance of this study lies in its potential to assist industrial business entrepreneurs in developing business alliances, enabling their organizations to drive the country's GDP growth at an average rate of no less than 4.5% per year. This growth rate is crucial for Thailand to transition to a high-income nation by 2036, as outlined in the objectives of the 20-year National Strategy.

2.Literature Review

2.1 Business Alliance

A review of the literature on the concepts and theories related to business alliance development strategies for creating competitive advantage presents a framework for effectively managing business alliance strategies. This approach enables businesses to create value and achieve their goals while gaining a competitive edge over competitors. According to Peters(2022), have said that a business alliance refers to a formal strategic collaboration agreement between two or more organizations or companies in the form of resource sharing. This collaboration spreads business risks through interdependency, managing resources and organizational capabilities to achieve a common objective. Ratnamani, N., et al. (2018)have classified the partnerships into 5 different aspects: 1) Strategic Resources Cooperation, 2) Production and Operation Cooperation, 3) Marketing Cooperation, 4) Research and Development Cooperation, and 5) Procurement Cooperation. The elements of business alliance development strategies for creating competitive advantage consist of four areas:

2.2 Data Management

Data Management refers to data management processes such as data sharing, data acquisition, data storage, data analysis, data rendering, information security, and data usage regulations as well as technology management to develop the activities of allied organizations, and to build a competitive advantage in the research on The Reality and Path of Resource-Based Enterprises Digital Transformation (Desai& Manoharan, 2024). Liet al. (2022) have investigated the barriers to transforming into a digital organization, which also lacks Data Mining, low online participation, non-standard data, Danger in Data Security, and lack of

experts. The research proposed solutions such as establishing an information network, implementing process intelligence management, and creating service platform management. Furthermore, research on A Multi-Dimensional Framework for Value Creation through Big Data by Elia, G., et al. (2020) found that Big Data improves the efficiency of company-supplier relationships, enhances customer satisfaction, and drives sales growth, particularly in B2B companies.

2.3 Benefits Management

This refers to the systematic process of planning, decision-making, and analyzing business benefits, including methods for measuring, evaluating, and comparing financial and non-financial benefits. Research on Partnership Pattern of Desiccated Coconut Value Chain in North Sulawesi by Sondak, L., et al. (2023) examined the operations and models of alliances between industrial factories and dried coconut farmers. It found that solving issues using a Win-Win approach, resource sharing, and risk management based on mutual needs, mutual strengthening, and mutual benefit were key factors for success. Additionally, research on Supply Chain Fair Profit Allocation Based on Risk and Value Added for Sugarcane Agro-industry by Asrol, M., et al. (2020) studied the fair allocation of profits in supply chains based on risks and added value for the sugarcane industry. It showed that stakeholders, including sugarcane farmers, factories, and distributors, could receive a fair share of profits by considering the increased risks and added value, thereby enhancing supply chain stability.

2.4 Conflict Management

This refers to the process of managing conflicts that may arise or are ongoing to reduce negative outcomes and create opportunities for positive results. Organizations must balance conflict levels and outcomes while integrating business alliance strategies. Leadership Characteristics and Conflict Management by Borisut, S. (2021). found that conflict management styles have a direct positive influence on conflict resolution. Even if no conflict is present, leaders should promptly address potential issues, find the root cause of conflicts, and consider appropriate ways to resolve them. Conflicts should be seen as problems requiring joint solutions, not as situations to be resolved through authority or blame. The method chosen to resolve conflicts depends on the objectives of the parties involved, and new approaches may be needed if one party views the problem from a new perspective or faces strong emotional reactions from the other side.

2.5 Resource Management

This refers to the allocation of resources to support business alliances, such as facilities, materials, equipment, and personnel, to achieve maximum efficiency and effectiveness. Research on the Study of a Causal Model of Resource-Based View and Organizational Learning Influencing Intrapreneurship Behavioral Characteristics of Medical Sales Representatives of Multinational Pharmaceutical Companies in Thailand by Qiao et al. (2024) found that a learning organization, which includes continuous learning, empowerment, team learning, and leadership, positively influences employees' entrepreneurial behavior, including innovation, risk-taking, and proactive management. Developing people within the organization leads to entrepreneurial qualities that contribute to creating competitive advantages and sustainable growth in the industry. Additionally, research on Comprehensive Analysis on Effectiveness of Inventory Management Practices on the Performance Of Wholesale Drug Dealers by Kalita, B. C., and Kalita, B. (2022) stated that resource management is one of the most critical strategies for organizational efficiency

and sustainable development. Proper and optimal use of resources stabilizes the organization, benefiting product production lines, supply chain logistics, and long-term product lifecycle development.

3. Methodology

This study uses a mixed research method, including qualitative research by in-depth interviews and quantitative analysis using survey research. There is also additional qualitative research using group discussion to achieve three research objectives: firstly, to study the model and operational characteristics of industrial enterprises. Secondly, to analyze the elements of the Guidelines of Business Alliance Development for a Competitive Advantage, and third, to construct a structural equations model of the Guidelines of Business Alliance Development for a Competitive Advantage.

3.1 Population and Sample

Qualitative Research (In-Depth Interview Technique): The qualitative research conducted in this study utilized the in-depth interview technique. The population for this research comprised 9 experts, selected through purposive sampling based on specific qualifications. The criteria for selecting the experts included 3 key groups: 3 individuals from business entrepreneurs or executives, 3 individuals from government agencies, and 3 individuals from academia.

Quantitative Research (Survey Technique): The population used in this research is defined as industry entrepreneurs from 32,099 enterprises (Department of Business Development, Ministry of Commerce, 2020) with 3 years of consecutive profits who implement business alliance development or executives responsible for the development of business alliances. The researchers set the sample size at a very good level of 500 examples (Slipcharu, 2024) using multi-stage sampling, consisting of cluster sampling by categorizing industrial enterprises into two sizes: small-medium enterprises and large enterprises. Used probability sampling with the Lottery Method and collect data from samples.

Qualitative Research (Focus Group Discussion Technique): Qualitative research using group conversation techniques to validate the structural equation model by 11 qualified individuals from a prestigious organization in Thailand, selected through purposive sampling.

3.2 Research instruments

Qualitative Research (In-depth Interview Technique): In the initial phase of the study, structured interviews were conducted with 9 qualified business management experts. The interviews were recorded and analyzed using content analysis. The findings from the interviews were utilized for the subsequent quantitative research phase.

Quantitative Research (Survey Technique): The research instrument was divided into four parts: Part 1 consisted of a questionnaire on the general status of industrial enterprises with 5 items, Part 2 included a questionnaire on the structure and operational characteristics of industrial businesses with 20 items, Part 3 comprised a questionnaire on Business Alliance Development guidelines for creating a competitive advantage with 100 items, and Part 4 contained a questionnaire on feedback and suggestions for the development of business alliances to create a competitive advantage in the industry sector with 5 items. Five experts analyzed the variables using the Item Objective Congruence (IOC) method, with consistency ranging between 0.80-1.00. Additionally, a reliability analysis was conducted using Cronbach's Alpha coefficient with 30

questionnaires, resulting in a confidence weight of 0.99. Standard deviation analysis ranged from 0.31 to 1.80. Qualitative Research (Focus Group Discussion Technique): In the final phase of the study, a focus group discussion was held with 11 business executives and 2 professors, totaling 13 participants. A professional conference moderator facilitated the discussions to gather thoughts and opinions on the results and SEM models. The group discussion was recorded and analyzed using content analysis. Participants unanimously approved the results and provided suggestions for enhancing the research report. The research findings were then presented in the subsequent section.

3.3 Data Analysis

In quantitative data collection, researchers distributed a questionnaire to collect 500 sets of data. The data was then analyzed using Descriptive Statistics, Inferential Statistics, and Structural Equation Model analysis. Descriptive statistics, such as frequency, percentage, average (mean), and standard deviation, were used to generalize the general factor data. Bivariate correlations were also analyzed to test the relationship between the structure and the general operational characteristics of industrial enterprises. Statistical significance tests were set at levels 0.001, 0.01, and 0.05 using the Pearson Chi-square value to analyze and test statistical significance at the 0.05 level. Multivariate statistical data analysis was conducted using IBM SPSS Statistics and IBM SPSS AMOS software to develop structural equation models. To ensure the integrity of the model, researchers evaluated the consistency of all elements or latent variables using data-model Fit Criteria. They then adjusted the latent variables to ensure that the developed model was consistent with empirical data and modified the model based on observable variables collected from the questionnaire. Additionally, researchers used modification indices to identify inappropriate variables and remove them from the model one by one until the model passed all four statistical criteria. This process ensured that the structural equation model was consistent with empirical data (Anatan & Nur, 2023).

4. Results

4.1 Business factors

The research found that both the small-medium enterprises and large enterprises were represented in the study, with 250 respondents from each group, totaling 500 respondents. Most businesses had investment structures solely involving Thai investors (85.60%). Organizational operations were primarily guided by top-level management policies (61.80%). Additionally, most of the business alliances operated under benefit-sharing agreements (65.80%), and a large portion of these businesses (46.60%) formed alliances with companies in the same industrial sector.

4.2 Important level

The research revealed that, overall, the elements of the Guidelines of Business Alliance Development for a Competitive Advantage in the Digital Era were considered highly important, with an average score of 4.06 (see Table 1). Additionally, the following top-ranked the observed variables within each element can be explained:

(1) Resource Management element had an average score of 4.10. The highest-ranking variable was 'Recognizing/appreciating employees who exemplify successful business partnership practices', with an average score of 4.39.

(2) Data Management element had an average score of 4.09. The highest-ranking variable was 'Implementing data protection (Cybersecurity) and firewall security systems', with an

average score of 4.23.

(3) Benefits Management element had an average score of 4.04. The highest-ranking variable was 'Restricting access to sensitive benefit information', with an average score of 4.24.

(4) Conflict Management element had an average score of 4.02. The highest-ranking variable was 'Defining multiple solutions to increase options for resolving conflicts', with an average score of 4.33.

Table 1

Importance level and top-ranked of the observed variable factors in each element

Guidelines of Business Alliance Development for a Competitive Advantage in the Digital Era	$\bar{X}$	S.D.	Importance Level
Overall	4.06	0.41	High
1. Resource Management	4.10	0.44	High
Recognizing/appreciating employees who exemplify successful business partnership practices	4.39	0.80	High
2. Data Management	4.09	0.42	High
Implementing data protection (Cybersecurity) and firewall security systems	4.23	0.82	High
3. Benefits Management	4.04	0.49	High
Restricting access to sensitive benefit information	4.24	0.84	High
4. Conflict Management	4.02	0.44	High
Defining multiple solutions to increase options for resolving conflicts	4.33	0.79	High

Source: Prepared by authors (2024)

The results of the comparison of the significance levels of the elements of the Guidelines of Business Alliance Development for a Competitive Advantage in the Digital Era, classified by the size of industrial businesses, were tested using an independent samples t-test to compare the means of the two population groups. The results showed that the small-medium enterprises and large enterprises placed higher importance on the elements of business alliance development guidelines to create a competitive advantage compared to large-sized industrial businesses (see Table 2)

Table 2

Comparison of the two groups' analysis results on the difference in business type

Guidelines of Business Alliance Development for a Competitive Advantage in the Digital Era	t-Value	P-Value
Overall	9.60	0.00*
1.Resource management	8.71	0.00*
2.Data management	4.99	0.00*
3.Benefits management	11.69	0.00*
4.Conflict management	8.90	0.00*

*Statistical difference at the level of 0.05

Source: Prepared by authors (2024)

4.3 SEM Analysis

Researchers used modification indices to refine the model and eliminate inappropriate observed variables until the model met all four statistical criteria, as shown in Figure 2. After modification, the model showed that the probability level of the chi-square value (CMIN- ρ) was 0.127, which is greater than 0.05, indicating that the model is not statistically significant. In addition, the relative chi-square (CMIN/DF) was 1.087, which is less than 2.00, indicating a good model fit. The goodness of fit index (GFI) was 0.949, which is greater than 0.90, also indicating a good model fit. Finally, the root mean square error of approximation (RMSEA) was 0.013, which is less than 0.08, indicating a good fit of the model to the 28 observed variables (see Tables 3 and 4).

Table 3

Model fit consideration statistics and output of before and after modification

Model Fit Consideration Statistics	Standard Criteria	Before Modification	After Modification
CMIN- ρ (Chi-square probability level)	Higher than 0.05	0.000	0.127
CMIN/DF (Relative Chi-square value)	Less than 2.00	1.928	1.087
GFI (Goodness-of-fit-index)	Higher than 0.90	0.707	0.949
RMSEA(Root means the square error of approximation)	Higher than 0.08	0.043	0.013

Source: Prepared by authors (2024)

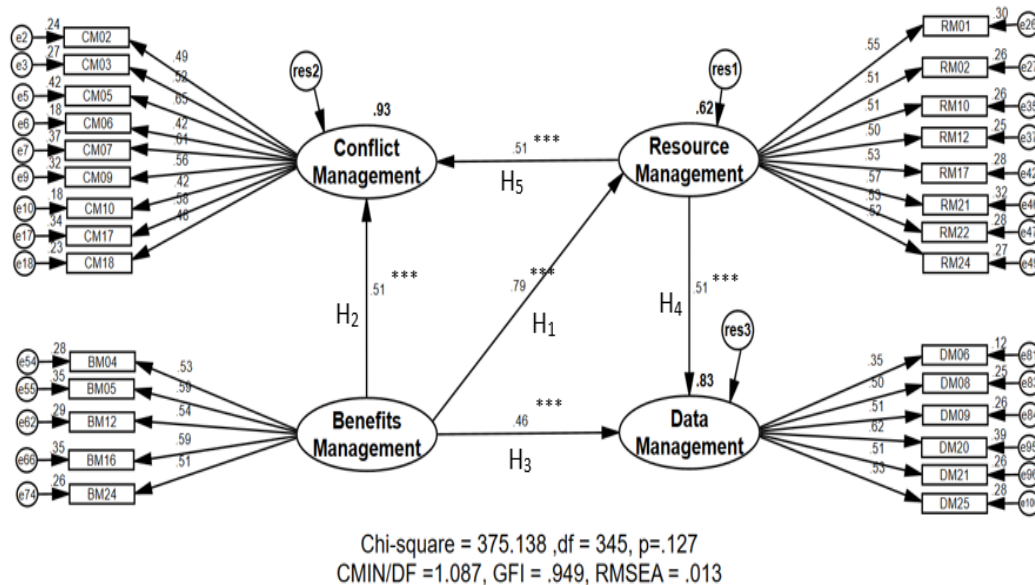


Fig. 2SEM model after modification

Source: Prepared by authors (2024)

Table 4

Outstanding observed variable factors after SEM modification

Outstanding observed variable factors after SEM modification		Standardized regression weight
Benefits management		
BM04	Establish a monitoring system for managing shared benefits.	0.53
BM05	Define guidelines for ensuring transparency in seeking mutual benefits.	0.59
BM12	Create agreements based on fairness in sharing benefits.	0.54
BM16	Specify the termination or expiration date of the contract in writing.	0.59
BM24	Define ethical practices and ensure compliance with ethical standards.	0.51
Resource management		
RM01	Establish a dedicated unit responsible for managing business partnerships.	0.55
RM02	Provide necessary materials, equipment, and personnel for partnership operations.	0.51
RM10	Create added value in the joint use of resources among partners, such as developing new innovations, products, and services.	0.51
RM12	Develop strategies to determine how to effectively utilize the resources and capabilities of partners.	0.50
RM17	Collaborate with partners in research and development of new products and services.	0.53
RM21	Ensure fairness in the use of resources by each party.	0.57
RM22	Recognize and reward employees who exemplify successful business partnership practices.	0.53
RM24	Determine appropriate work schedules and staffing levels for each project	0.52
Conflict management		
CM02	Define a clear vision, mission, and goals for the business partnership to guide joint operations.	0.49
CM03	Establish effective processes and channels for inter-organizational communication, such as clarity and speed of communication.	0.52
CM05	Define flexible business operating procedures to accommodate changes and reduce conflicts among business partners.	0.65
CM06	Manage conflicts from the outset, preventing them from becoming prolonged and difficult to resolve.	0.42
CM07	Clearly define the roles and responsibilities of each organization and the decision-making authority of each organization.	0.61

CM09	Define work processes and regulations for cooperation.	0.56
CM010	Provide joint training for members of different organizations to build knowledge, unity, and mutual understanding.	0.42
CM017	Define clear methods and procedures for managing potential conflicts.	0.58
CM018	Identify individuals who will negotiate to resolve conflicts.	0.48

Data management

DM06	Develop a system for reporting important data for data management and disseminating it to business partners, such as dashboards and summary reports on various activities, such as the number of data added or updated over different time periods.	0.35
DM08	Establish a policy for establishing a data network between organizations that is efficient, secure, easy to store, and retrieve data from databases between companies or organizations in the partnership.	0.50
DM09	Train partner personnel who need to use data to have the knowledge to use data and process data results accurately.	0.51
DM20	Define data access rights.	0.62
DM21	Select appropriate data processing tools for the job and data.	0.51
DM25	Implement data protection (cybersecurity) and firewall security systems.	0.53

Source: Prepared by authors (2024)

Therefore, the researchers concluded that the SEM model provided a good fit to the empirical data. Furthermore, the hypothesis test to analyze the causal relationships among latent variables in the structural equation model for business partnership development strategies to gain a competitive advantage showed that all five hypotheses were supported at the 0.001 level of statistical significance.

Table5

Overall influence analysis of direct and indirect influence after model modification

Latent Variables	Benefits Management	Resource Management	Data Management	Conflict Management
Resource Management	0.79	0.00	0.00	0.00
Data Management	0.86	0.51	0.00	0.00
Conflict Management	0.91	0.51	0.00	0.00

Source: Prepared by authors (2024)

Table 5 displays the results of the analysis of the total, direct, and indirect effects of the structural equation model (SEM) for the Guidelines of Business Alliance Development for a Competitive Advantage in the Digital Era, as standardized estimates post-model refinement. The findings reveal that the benefits management element exerted the most significant overall impact, particularly on the conflict management element, with a standardized regression weight of 0.91 (0.51 + 0.40).

The findings from the study can be practically applied by SMEs in several ways to enhance their competitiveness in the market. Firstly, SMEs can utilize the four key elements identified in the research—Benefits Management, Resource Management, Data Management, and Conflict Management—to strategically structure their alliances. This approach enables them to maximize the benefits derived from partnerships, such as shared resources, innovative solutions, and market insights, which can lead to cost efficiencies and improved service offerings. Secondly, by adopting a structured approach to Conflict Management, SMEs can anticipate and resolve potential disputes or misunderstandings within alliances, fostering a more collaborative environment. This can help maintain strong partnerships that are essential for long-term success. Moreover, by implementing effective Benefits Management practices, SMEs can clearly define and communicate the advantages of partnerships, ensuring all parties are aligned and motivated to achieve common goals. Additionally, the study's emphasis on Data Management highlights the importance of leveraging data analytics to make informed business decisions. SMEs can focus on gathering and analyzing data related to market trends, consumer preferences, and performance metrics, which can enhance their ability to respond quickly to changes in the market and identify new opportunities.

5. Conclusion and Discussion

This study investigated the varying significance of business alliance development elements in achieving a competitive advantage across different industrial business sizes. The results indicated significant differences at the 0.05 level, both overall and across individual elements. These findings support Ferreira, J., et al.'s (2020) observations on the differences in new product development processes among business alliance partners. Specifically, SMEs were identified as more receptive and adept at leveraging such processes due to their flexible organizational structures and agility in responding to market changes and innovations.

The Resource Management element received the highest average score of 4.10, indicating its importance. The success of business alliances hinges on their ability to access resources like land, buildings, materials, capital, and intangible resources (e.g., reputation, experience, processes, etc.). These resources play a crucial role in driving operational activities (Muthoka, R., et al., 2022). Sawangnual, K., and Rungsithong, R. (2024) also highlighted the significant contribution of alliances in enhancing resource collaboration. Resource complementarity involves sharing capabilities, strengths, or expertise within the alliance group, enhancing an organization's resources and efficiency. Furthermore, Kultangwatana, W., et al. (2023) suggested that judicious use of raw materials can help entrepreneurs produce consumer-attractive products.

The study identified "Recognize and reward employees who exemplify successful business partnership practices" as the most crucial factor. This finding is consistent with Meesuk, P.'s (2020) research, emphasizing the importance of focusing on both work and people within the organization. Employee morale and motivation are vital for organizational performance, and effective reward systems can encourage continuous improvement. Therefore, managers should prioritize their personnel by offering incentives such as salary raises, recognition for achievements, and promotions (Imran et al., 2021).

The results of hypothesis testing confirmed that Benefits Management has a direct and significant positive impact on Resource Management, with a standardized regression weight of 0.79. This finding is consistent with Yadav, M., et al. (2024) research, which indicated that

Investors are more likely to pursue investments with positive returns by considering ESG (Environment, Social, and Governance) factors, which have a significant influence on investment outcomes. From the hypothesis testing results, it was found that the Benefits Management element had an overall influence on the Conflict Management element, with a Standardized Regression Weight of 0.91. This empirical evidence suggests that organizations that prioritize appropriate benefit allocation are more capable of managing conflicts in a manner that fosters collaboration. This finding aligns with the research by Soliev and Theesfeld (2020), who studied the utilization of cross-border water resources, where users from different countries had conflicts and disputes over shared benefits. The researchers emphasized the importance of cooperation in problem-solving, as well as establishing Benefit Sharing and Trust Building through leadership collaboration, strong civil society communication, experimentation, opportunity creation, co-development, and joint agreements and enforcement. Furthermore, this aligns with Wattanakomol (2024), which advocates for leaders to establish good relationships with all stakeholders and foster collaboration.

In summary, this research emphasizes the importance of a multi-faceted approach in utilizing business alliance strategies. It integrates research and development, market research, and successful entrepreneurial thinking to ensure that business alliances are effective, achieve their objectives, and create competitive advantages.

6. Suggestions

Government agencies, such as the Department of Industrial Promotion and the Office of Small and Medium Enterprises Promotion (OSMEP) under the Office of the Prime Minister, should promote the establishment of business networks among industrial entrepreneurs in the form of clusters. These clusters should facilitate connections between manufacturers as both buyers and sellers within a business alliance network, promoting the integration of supply chains across industrial and related trade sectors. This initiative will bolster the supply chain, boost economic dynamism, and enhance competitiveness. Furthermore, the Revenue Department, Excise Department, and Customs Department under the Ministry of Finance should review the import tax structure to support international trade. This is crucial given the rising costs of importing materials, particularly during unforeseen events like the COVID-19 pandemic, which impact production expenses. Revising tax policies, such as reducing import tariffs, would enhance business competitiveness and aid in the stable and timely recovery of industrial entrepreneurs. Businesses can leverage the research findings to strengthen their competitive edge through strategic alliances.

- (1) Resource Management: Industrial entrepreneurs should prioritize Resource Management by implementing reward systems to acknowledge employees contributing to successful alliances, empowering employees with decision-making authority, and outsourcing non-core activities to specialized providers.
- (2) Data Management: Effective data management is vital for successful business alliances. Industrial entrepreneurs should focus on cybersecurity measures to safeguard sensitive information from breaches. Adhering to data privacy regulations is essential for maintaining trust and credibility. Establishing efficient data-sharing protocols among alliance partners facilitates collaboration and knowledge exchange.
- (3) Benefits Management: Careful benefits management is another crucial aspect of successful alliances. Limiting access to sensitive benefit information helps protect intellectual property and maintain a competitive advantage. Rigorous partner selection criteria ensure alignment with the organization's strategic objectives and values.

Protecting intellectual property rights is crucial for safeguarding the alliance's competitive position.

- (4) Conflict Management: Proactive conflict management is essential for maintaining harmonious relationships within alliances. Developing multiple conflict resolution strategies empowers organizations to address disputes effectively. Pursuing win-win solutions fosters collaboration and avoids destructive outcomes. In complex conflicts, seeking external mediation can provide neutral perspectives and facilitate resolution.
- (5) Industrial entrepreneurs should prioritize their employees as key drivers of business alliance strategies, establishing this as a Corporate Agenda. Additionally, entrepreneurs should focus on enhancing employee skills through upskilling and reskilling initiatives.
- (6) Industrial entrepreneurs should emphasize forming business alliances by clearly defining the direction of alliance management. Establishing shared value should be the central focus in developing all elements such as structure, strategy, systems, skills, and personnel for business alliances. Setting key performance indicators (KPIs) can drive the organization's alliance efforts towards achieving objectives.
- (7) Industrial entrepreneurs should consider competitors as potential allies and explore forming associations or alliances with them.
- (8) Industrial entrepreneurs should evaluate potential partners based on four criteria: 1) expanding the customer base, 2) increasing sales potential, 3) enhancing organizational credibility, and 4) developing new products, services, innovations, or opportunities.
- (9) Industrial entrepreneurs should elevate their business alliance management to international standards by adopting practices like Agile methodology, emphasizing flexibility and quick adaptation. This involves breaking work into short iterations to deliver valuable outcomes continuously, incorporating feedback from customers or team members to achieve results within a limited timeframe. Additionally, utilizing Project Management principles can further enhance the effectiveness of managing business alliances.

Researchers suggest that future research should delve into guidelines for large enterprises to form successful alliances with the small-medium enterprises. This includes examining the unique challenges and opportunities associated with such partnerships. Additionally, investigating good governance and transparency within business alliances can shed light on their impact on trust, collaboration, and sustainability. Studying the regulatory framework governing alliances can identify potential gaps and opportunities for policy improvements. Developing specific audit guidelines can help organizations assess the value and impact of their partnerships. Finally, exploring the role of digital technologies in transforming alliance management can provide insights into how to leverage technology to enhance collaboration and efficiency.

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References

- Anatan, L., & Nur. (2023). Micro, small, and medium enterprises' readiness for digital transformation in Indonesia. *Economies*, 11(6), 156. <https://doi.org/10.3390/economies11060156>
- Asrol, M., Marimin, Machfud, Yani, M., Taira, E. (2020). Supply Chain Fair Profit Allocation Based on Risk and Value Added for Sugarcane Agro-industry. *OSCM Publications*. Vol. 13 Issue 2. Available at: <https://doi.org/10.31387/oscm0410259>
- Borisut, S. (2021). Leadership Characteristics and Conflict Management. *Journal of Humanities & Social Sciences (JHUSOC)*. 19(2), 229–251. Retrieved from: <https://so03.tci-thaijo.org/index.php/jhusoc/article/download/252376/170406/918991>
- Chen, C.-L., Lin, Y.-C., Chen, W.-H., Chao, C.-F., & Pandia, H. (2021). Role of government to enhance digital transformation in small service businesses. *Sustainability*, 13(3), 1028. <https://doi.org/10.3390/su13031028>
- Desai, A., & Manoharan, A. P. (2024). Digital Transformation and Public Administration: The Impacts of India's Digital Public Infrastructure. *International Journal of Public Administration*, 47(9), 575–578. <https://doi.org/10.1080/01900692.2024.2350762>
- Elia, G., Polimeno, G., Solazzo, G., Passiante, G. (2020). A Multi-Dimension Framework for Value Creation through Big Data. *Industrial Marketing Management*. Vol. 90, October 2020 : 617-632. Available at: <https://doi.org/10.1016/j.indmarman.2020.03.015>
- Ferreira, J., Coelho, A., Moutinho, L. (2020). Strategic alliances, exploration and exploitation and their impact on innovation and new product development: the effect of knowledge sharing. *Management Decision* Vol. 59 No. 3, 524-567. <https://doi.org/10.1108/MD-09-2019-1239>
- Hokmabadi, H., Rezvani, S. M. H. S., & de Matos, C. A. (2024). Business resilience for small and medium enterprises and startups by digital transformation and the role of marketing capabilities—a systematic review. *Systems*, 12(6), 220. <https://doi.org/10.3390/systems12060220>
- Imran, F., Shahzad, K., Butt, A., & Kantola, J. (2021). Digital Transformation of Industrial Organizations: Toward an Integrated Framework. *Journal of Change Management*, 21(4), 451–479. <https://doi.org/10.1080/14697017.2021.1929406>
- Kalita, B. C. and Kalita, B. (2022). Comprehensive Analysis On Effectiveness Of Inventory Management Practices On The Performance Of Wholesale Drug Dealers. *Journal of Positive School Psychology*. : 8750-8762. Retrieved from: <https://journalppw.com/index.php/jpsp/article/view/9173>
- Kulangwatana, W., Techakana, J & Wattanakomol, S. (2023). Guidelines for the development of small and medium enterprises into high-value markets. *Uncertain Supply Chain Management*, 11(4), 1877-1888. <https://doi.org/10.5267/j.uscm.2023.6.004>
- Kwilinski, A., Lyulyov, O., & Pimonenko, T. (2023). The coupling and coordination degree of digital business and digital governance in the context of sustainable development. *Information*, 14(12), 651. <https://doi.org/10.3390/info14120651>
- Li, M., Gou, X., Zhang, X. (2020) The Reality and Path of Resource-Based Enterprises' Digital. *Scientific and Social Research*. 2022 Vol. 4. <https://doi.org/10.26689/ssr.v4i3.3669>

- Meesuk, P. (2020). Work Efficiency of the Personnel at Surat Thani Provincial Employment Office. *Rajabhat Rampai Barni Research Journal*. 14(3), September-December. Retrieved from: <https://so05.tci-thaijo.org/index.php/RRBR/article/view/248232>
- Muthoka, R., Kilika, J., Muathe, S. (2022). What Sustains Performance in A Strategic Alliance?The Role of Level of Collaboration. *Journal of Business and Management Sciences*, 2022, Vol. 10, No. 3, 113-123. <https://doi.org/10.12691/jbms-10-3-2>
- Peters, M. A. (2022). Digital trade, digital economy and the digital economy partnership agreement (DEPA). *Educational Philosophy and Theory*, 55(7), 747–755. <https://doi.org/10.1080/00131857.2022.2041413>
- Qiao, G., Li, Y., & Hong, A. (2024). The strategic role of digital transformation: Leveraging digital leadership to enhance employee performance and organizational commitment in the digital era. *Systems*, 12(11), 457. <https://doi.org/10.3390/systems12110457>
- Ratnamani, N., Kittisaknawin, C., Deesawadi, N. (2018). Organizational development through strategic alliances. *Journal of Humanities and Social Sciences Thonburi University*. 12(27), 175–186. Retrieved from: https://www.thonburi-u.ac.th/Journal/Document/12-27/Journal12_27_16.pdf
- Sawangnual, K., and Rungsithong, R. (2024). The Important Factors for Building Effective Strategic Alliances among Small and Medium-sized Technology Companies in Thailand. *Kasetsart Applied Business Journal*. 18(28), 95–118. <https://doi.org/10.14456/kab.2024.5>
- Soliev, I. and Theesfeld, I. (2020) Benefit Sharing for Solving Transboundary Commons Dilemma in Central Asia. *International Journal of the Commons* , Vol. 14, No. 1 (2020), pp. 61-77. <https://doi.org/10.5334/ijc.955>
- Sondak, L., Darwabtiet, D.H., Waluyati, L.R. (2023). Partnership Pattern of Desiccated Coconut Value Chain in North Sulawesi. *IConARD*. 2023. Available at: <https://doi.org/10.1051/e3sconf/202344402021>
- Turner, R. C., and Carlson, L. (2002). Index of item objective congruence for multiple objective measures. *International Journal of Testing*, 3(2), 163–171. https://doi.org/10.1207/S15327574IJT0302_5
- Wang, Z., Lin, S., Chen, Y., Lyulyov, O., &Pimonenko, T. (2023). Digitalization effect on business performance: Role of business model innovation. *Sustainability*, 15(11), 9020. <https://doi.org/10.3390/su15119020>
- Wattanakomol S. (2024). Characteristics of Micro, Small and Medium-sized Business Entrepreneurs Who Achieve Sustainable Success. *Kurdish Studies*. Vol.12. No.2, 1043-1059.Retrievedfrom: <https://kurdishstudies.net/menu-script/index.php/KS/article/view/1949/1345>
- Yadav, M., Dhingra, B., Batra, S., Saini, M., Aggarwal, V. (2024). ESG scores and stock returns during COVID-19: an empirical analysis of an emerging market. *International Journal of Social Economics*. <https://doi.org/10.1108/IJSE-10-2023-0819>