

-RESEARCH ARTICLE-

THE INDUSTRIAL SECTOR'S NEEDS AND THE ROLE OF THE PROVINCIAL FEDERATION OF INDUSTRIES: EVIDENCE FROM THAILAND

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—Abstract—

The Provincial Federation of Industry is recognized as a private-sector group that collaborates with provinces and municipalities to increase the productivity of Thai industries. However, it was determined that the administration of the Provincial Federation of Industries is not as effective as it should be, resulting in an inability to respond to the needs and satisfaction of the members in various aspects, such as a lack of a clear vision, a lack of business environment analysis, a lack of strategy formulation and implementation, and a lack of evaluation and control. Therefore, it is worthwhile to study the demands of the industrial business sector concerning the role

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of the Provincial Federation of Industries and construct a structural equation model of these needs. The quantitative data was gathered from 500 executives of industrial sector members of the Provincial Federation of Industries using multi-stage sampling: cluster sampling of within and outside industrial complex industries and the lottery technique. Descriptive, referential, and multivariate statistics were used to assess quantitative data. It was determined that the industrial business sector's needs regarding the role of the Provincial Federation of Industries were as follows:: management efficiency ($\bar{X} = 4.13$) collaboration ($\bar{X} = 4.05$), leadership characteristics ($\bar{X} = 4.05$), and benefit ($\bar{X} = 3.99$) respectively.

Keywords: Industrial Business, Provincial Federation of Industries, Structural Equation Model

1. INTRODUCTION

Changes in the global economy in the era where Thailand is entering Thailand 4.0 and the transformation of the industrial economy structure to a "Value-Based Economy" or an "innovation-driven economy" have shifted the core thinking bases, such as from manufacturing consumer goods to innovative commodities; from an industrial-driven country to a country driven by technology, creativity, and innovation; and from focusing on the manufacturing sector to focusing more on the service sector. Emerging companies with high potential also shift from traditional services and relative-value creations to high-value services and low-skilled labor to the knowledgeable workforce, expertise, and high skills. Various countries have also stepped into such a changing economic era. Therefore, the Thai industrial sector has to adjust itself and pay more attention to economic problems and take the countries with successful economic systems as a model for economic development of Thailand. In the present era, countries' relationships in industrial trade have become closer. Convenient and fast communication allows different countries to trade with those with economic systems more efficiently, even though some socioeconomic activities may directly or indirectly affect them (S. Wantanakomol, 2021).

In today's world, the rivalry is intensifying, particularly in the industrial sector. Currently, the global economy is still fraught with dangers. (Alhakimi et al., 2020) note that the high competition in the era of borderless connection with technology is a significant aspect that enables the global community to swiftly observe or be affected by anything that has occurred as a result of system development. Consequently, the world's major regions have begun cooperating and coordinating with one another for their trade benefits and strengthening their competitive advantages in the industrial sector. (Council, 2020).

The industrial sector of Thailand is vital to the overall economic system of the country. Therefore, to bring the country into the 4.0 era, the competitive and sustainable growth of the industrial sector is focused on as the country's main development. The overall

picture consists of various industries scattered in every country region and supported by government agencies (Council, 2020).

Government agencies should assist and facilitate business operators; however, such assistance and facilitation may not cover all. So the industrial business sector has to prioritize how to manage its business successfully. They must rely on some important elements in driving their business to be competitive and have management potential in the era of borderless technology. With this regard, they have jointly established a central organization in the form of an industry council, a private industrial institution aiming to act as the center of Thai industry for industrial promotion. It is a non-profit organization. Its primary mission is to promote and support the initiative, strengthen the country's private business institutions, act as a mechanism to develop the industrial sector in continuous operation and create sustainable growth for the country's economy and society (Industry, 2020).

The Provincial Federation of Industries is recognized as the private sector group that collaborates with the province and primarily with municipalities, particularly in industry-focused locales. However, it has been discovered that the Provincial Federation of Industries' administration is not as influential as it should be. The incapacity of the Provincial Federation of Industries' Committee to respond to the members' requests and ensure their satisfaction is primarily attributable to a shortage of funds and a small number of team members (Industry, 2020). Consequently, fewer business owners join the Provincial Federation of Industries. From 2016 to 2020, the ratio of the number of members to the number of factories increased. The relevant percentages were 5.39, 5.19, 5.07, 5.05, and 4.92 percent (Industries, 2020). The number of businesses requesting membership in the Provincial Federation of Industries is relatively small compared to the total number of businesses in the province. This demonstrated that the Provincial Federation of Industries could not incentivize businesses to seek membership, even though it is intended to assist the industrial enterprises of the provinces with economic and social development to strengthen entrepreneurs. It was discovered that the Provincial Federation of Industries administration is not as influential as it should be, resulting in an inability to respond to the needs and satisfaction of its members in various aspects, such as a lack of clear vision, a lack of business environment analysis, a lack of strategy formulation and implementation, and a lack of evaluation and control. With the establishment of the Federation, which is intended to strengthen business competitiveness, bridge the gap between government policy and business requirements, and make significant recommendations to the government regarding the formation of trade and commercial policies, this issue is quite substantial.

2. THE OBJECTIVES OF THE STUDY

To investigate the industrial business sector's needs and the role of the Provincial Federation of Industries.

To develop a structural equation model on the industrial business sector's needs and the role of the Provincial Federation of Industries.

3. LITERATURE REVIEW

3.1 Paradox Theory

The current investigation is based on the paradox theory. The paradox, which [Waldman et al. \(2019\)](#) define as a continuous conflict between interdependent elements, is a time-honored concept with roots in both eastern and western philosophical texts, such as the Tao Te Ching and the Bible ([Pearce et al., 2019](#)). [Pearce et al. \(2019\)](#) formulated a paradox theory by integrating disparate paradox-related studies. Paradox theory explores how organizations react to and attempt to manage the conflicts that arise from simultaneously pursuing several contradicting aims ([Baer et al., 2018](#); [Pearce et al., 2019](#)). This is of the utmost relevance in performance management, as firms tend to focus on a limited number of objectives or indicators. If managers and leaders adopted the perspective of paradox theory, they would be encouraged to pursue several competing aims rather than this method and discouraged from employing it.

[Pearce et al. \(2019\)](#) identify 'performance paradoxes' as one of four central organizational paradoxes that 'emerge from the diversity of stakeholders and result in competing strategies and objectives.' As indicated by the term's definition, the focus of performing paradoxes is therefore on managing performance and achieving diverse goals across many stakeholders. The study of organizational conflicts lends itself exceptionally well to applying paradox theory ([Dong et al., 2022](#)). When it comes to the 'paradox of organisations,' as [Neuman \(2018\)](#) explains, businesses need to find a way to reconcile what were once seen to be opposites (for example, planning against flexibility, mass-market versus specialty) than selecting one over the other. Adopting both a/and strategies instead of an either/or one is the essence of the matter when it comes to managing paradoxes or tensions ([Baer & Colquitt, 2018](#)). In light of this, applying paradox theory to management practices would discourage the practice of "robbing Peter to pay Paul" ([Kosloff et al., 2020](#)), which refers to underpaying employees to increase profits and shareholder returns. [Pinto \(2019\)](#) identified a dilemma that leaders have when trying to concurrently make progress on both sides of three pairs of objectives that appear to conflict. Paradox theory could assist leaders in finding a solution to this problem. These three sets of goals are (1) profitability vs. growth, (2) the immediate future versus the distant future, and (3) the entire company versus its component elements. Even though the organization was where paradox theory was first conceived, it may be applied at many different levels of analysis, including individual, team, organizational, inter-organizational, and field levels ([Laasch, 2018](#)).

At the individual level, [Rozentale et al. \(2021\)](#) demonstrated that possessing a "paradox attitude" (i.e., the extent to which one accepts and is energized by disputes) may aid

individuals in enhancing their in-role job performance and innovation. This research shows that if all employees, not just top management, could cultivate a paradox attitude, the organization would embrace paradoxes, such as fulfilling various stakeholders with varying and occasionally conflicting expectations (Alma et al., 2019). Consequently, comprehensive and effective performance management would be realized. In addition, a workforce that has internalized a paradox mindset would be able to utilize creativity and innovation to develop superior (rather than myopic and suboptimal) methods for dealing with performing paradoxes. In contrast, a workforce that has not internalized a paradox mindset could only develop shortsighted and suboptimal solutions. Pearce et al. (2019) established the 'serious play' paradigm, which is one of the more modern techniques for resolving paradoxes and is effective in this regard. It is characterized by a blend of rationality and emotion, rule-following and rule-breaking, words and gestures that may have multiple meanings, and the testing of conventional boundaries through exploration. This paradigm fosters a humorous and open-minded attitude, which, once more, militates against an erroneous, cynical, gaming, ends-justify-the-means approach to performance management.

The Federation of Thai Industries is an assembly of private sector industries in Thailand, recognized as an industry representative for liaison between the private and government sectors to be the center of four main areas: (1) the center of industrial linkage between the private and government sectors; and with foreign sectors, (2) the industrial development service center, (3) the activity center for industrial enterprises, and (4) the industry problem-solving center for members. The literature review revealed that the industry council should have this structure:

3.2 Effective Organizational Management

Effective and efficient organizational performance management has proven to be one of the most challenging management challenges. Businesses regularly employ the time-tested management strategy known as "management by objectives" (Islami et al., 2018). This technique is founded on two commonsense premises: "what gets assessed is what matters" and "measuring results leads to improved outcomes" (Elkomy et al., 2020). (Leon et al., 2018). And even though these premises and underlying intuitions are correct, managing by metrics can lead to adverse outcomes. In the management literature, it is general knowledge that focusing one's attention primarily, if not wholly, on a limited number of short-term performance measurements has drawbacks (Elkomy & Cookson, 2020). These unexpected outcomes include errors, corruption, and gaming (Islami et al., 2018). Effective organizational management (Management Efficiency) is characterized by the following management principles: accountability, openness, participation, decentralization, the rule of law, and equality. The primary objective is to develop confidence among stakeholders and positively influence the Council of Industry's performance (Phuong, 2020).

3.3 Leadership Characteristics

Two contradictory concepts have evolved from research into what makes a good leader. Leadership theories often argue that there is "one perfect way" to lead and that leaders share recognizable traits. According to this idea, the characteristics and behaviors that separate leaders from others can be applied to various organizations and commercial situations (Karaca et al., 2021). According to the theories of contingency, there is no perfect answer. When it comes to effective leadership, it is more vital to utilize a style that is suited to the occasion. Personnel, life stage, and environmental setting will define any firm's most appropriate leadership characteristics (Campion, 2018). Due to the rise of e-commerce and its new business models and organizational structures, the debate over these contradictory leadership theories has taken on much practical significance. Analysts of the Internet bubble argued that e-world demands necessitated significantly different leadership qualities than those of conventional brick-and-mortar enterprises at the time (Chen, 2021). As e-commerce activity grew, so did the notion that field leaders needed to be risk-takers, innovators, or even mavericks. Others claimed that e-world CEOs were more personable, energetic, and imaginative than traditional commercial sector rivals. Following contingency theory, it is believed that e-business leaders require a set of attributes tailored to their specific context. Leadership Characteristics is acting as an organizational leader who has the qualities to think, dare to take risks, dare to make decisions, dedicate and commit to work, be responsible for work responsibilities, and commit to developing oneself to have up-to-date knowledge and experience at all times, to have a public service mind, and to consider the benefits of the society as a whole (Strøm et al., 2014; S. a. S. Wantanakomol, T, 2017). A competent leader should possess significant character such as broad vision, continuous learning, honesty, technology-oriented, communicative, rational, and correct business trend analysis. Therefore, leadership traits directly impact managerial effectiveness.

H1: Leadership characteristics directly influence management efficiency.

3.4 Collaboration

Collaboration means that work practices are organized to create solidarity of cooperation (Kafouros et al., 2020) that does not cause conflicts or overlaps between the Provincial Council of Industries and the Provincial Council of Industries members. Collaboration is sometimes differentiated from cooperative learning because cooperative learning is typically carried out through the division of labor, with each person being responsible for some portion of the problem-solving. Collaboration is accomplished through the pooling of resources. Participants in a collaborative effort, on the other hand, work together on the same task at the same time, as opposed to working in parallel on different aspects of the same activity. Despite this, Ansari et al. (2020) point out that some unplanned division of labor may happen when people work together.

As a result, drawing a line of demarcation between the two is not always easy. According to [van Leeuwen et al. \(2019\)](#), the work is divided hierarchically into independent sub-tasks when there is cooperation, and coordination is only necessary while "assembling partial results." On the other hand, collaboration may separate cognitive processes into nested layers, yet coordination still occurs. According to [van Leeuwen and Janssen \(2019\)](#), collaboration-based interactions can be distinguished by various distinctive characteristics. An almost symmetrical form is one of the defining properties of collaboration. This symmetry can be accomplished in numerous ways.

For instance, when there is the symmetry of activity, every individual has access to the same number of available actions. This differs from the conventional way of splitting labor in cooperative learning frameworks, in which partners first divide the work, then complete individual subtasks, and last combine their efforts. It is argued that a scenario has knowledge symmetry when all parties have about the same amount of information, although having different points of view. Instead of interactions between superiors and subordinates, status symmetry emphasizes collaboration among equals. In conclusion, symmetry of goals refers to the pursuit of group objectives instead of individual ambitions, which may compete with one another ([van Leeuwen & Janssen, 2019](#)). Another measure of authentic collaboration is the quality of interactions, precisely the level of engagement and the capacity for bargaining ([Chowdhury et al., 2018](#)). Interactivity refers to the extent to which the interactions of persons influence the thought processes of others. The phrase "negotiability" refers to when no group member may impose their opinion unambiguously on the rest of the group, and instead, all group members must work together to reach a consensus. [Chowdhury et al. \(2018\)](#) emphasize that modest, clear, and unambiguous activities provide little opportunities to observe negotiation because there is nothing to disagree about. This is the case because the work contains no perplexing elements.

Moreover, misunderstandings may be advantageous to learning because they compel participants to construct explanations, provide justifications, and defend their positions. This aids in the development of participants' critical thinking skills. The following hypothesis was generated from the management principle: collaboration leads to successful co-activities for the organization when there is a clear division of labor and direct accountability due to effective leadership and collaboration results ([van Leeuwen & Janssen, 2019](#)).

H2: Leadership characteristics directly influence collaboration.

3.5 Benefits

Benefits mean that members will receive concrete as specified by the Federation of Industries in the membership contract of the Provincial Industry Council. This creates satisfaction for all parties, both the beneficiary and the beneficiary. By this benefit should be to meet the needs of the beneficiary as a whole, not any individual

(Wasserman, 2010). Companies in every region of the world provide financial and non-financial rewards to their employees to attract, retain and motivate their workforce (Fuller et al., 2019). Financial rewards, which represent rewards with a monetary value, can take the form of direct financial rewards (such as fixed and variable pay) and indirect financial rewards (such as fringe benefits).

On the other hand, non-financial rewards encompass all organizational rewards that have no easily identified monetary value but are desirable to employees, such as appreciation, job security, and promotion. Financial rewards can take the form of direct financial rewards (such as fixed and variable pay) and indirect financial rewards (such as fringe benefits) (Anku et al., 2018). The following hypotheses were derived from i) the appropriate criteria to be management members and policy setting, which is mainly caused by high leadership (Sarti et al., 2018), ii) satisfying of needs, solid support, appropriate criteria to get those benefits which mainly causes from management efficiency (Gravetter et al., 2018), iii) the lack of strategy formulation and implementation; thus they do not lend the collaboration. Collaboration can be improved when the members realize its benefit or when the council establishes the clear roles of each management branch (Xiao, 2022).

H3: Leadership characteristics directly influence benefits.

H4: Benefits directly influence management efficiency.

H5: Benefits directly influence collaboration.

4. METHODOLOGY OF THE STUDY

This study has utilized a quantitative, cross-sectional research design. The research population consisted of 1,441 industrial entrepreneurs who were members of the Provincial Federation of Industries outside the Industrial Estate region (Industries, 2020). The sample size was chosen via factor analysis or a structural equation model, and 500 samples deemed excellent were collected (Meyers et al., 2016). Multi-stage sampling, cluster sampling of within and outside complex industrial industries, and random sampling were employed as sample methods. Online questionnaires with four components were used to collect the data: management efficiency (Goncharova et al., 2018), leadership traits, collaboration (Kafouros et al., 2020), and benefits (Kafouros et al., 2020) (Kulikowski et al., 2020). The dependability of the instrument was determined by a Cronbach's Alpha coefficient greater than 0.70. SPSS was used for the descriptive analysis, whereas AMOS was used to analyze the structural equation model (SEM). The study's statistical significance levels were set at 0.001, 0.01, and 0.05, respectively (Arbuckle et al., 2016).

5. ANALYSIS AND RESULTS

The importance of the industrial business sector's needs regarding the role of the

Provincial Federation of Industries was vital, with a mean of 4.05. When the specifics were taken into account, the three most significant items for each component were determined to be as follows:

i) Management efficiency: Strictly adhere to the promises made to the members ($\bar{X} = 4.35$), Disclose information on the operations of the Provincial Federation of Industries through accessible channels ($\bar{X} = 4.30$), and provide for an efficient work system and internal control ($\bar{X} = 4.27$), respectively.

ii) Leadership characteristics: Prioritize tasks appropriately ($\bar{X} = 4.23$), be able to analyze situations and industry market trends to appropriately adjust the strategies of the Provincial Federation of Industries ($\bar{X} = 4.18$), and behave as an excellent example for subordinates or colleagues ($\bar{X} = 4.17$), respectively.

iii) Collaboration: manage a study visit to successful Provincial Federations of Industries to take them as a model ($\bar{X} = 4.24$), coordinate with local communities to resolve environmental impact problems together ($\bar{X} = 4.21$), and coordinate with educational institutions or leading organizations to transfer knowledge to members ($\bar{X} = 4.20$), respectively.

iv) Benefits: Help coordinate with the Department of Labor in case of labor disputes ($\bar{X} = 4.15$), improve the organization's labor skill quality with the help of the Provincial Federation of Industries ($\bar{X} = 4.14$), and have the right to apply for a certificate of origin to show the origin of goods from Thailand for export ($\bar{X} = 4.13$), respectively.

v) The comparison of the levels of importance of industrial business needs to the role of the Provincial Federation of Industries in all aspects; namely, management efficiency, leadership characteristics, collaboration, and benefits, via testing the differences between the mean of the two independent populations revealed no differences among industries in different locations at the statistical significance level of .05 level.

The analysis of the developed structure equation model after being improved according to the Modification Indices value showed that its probability of chi square was 0.146

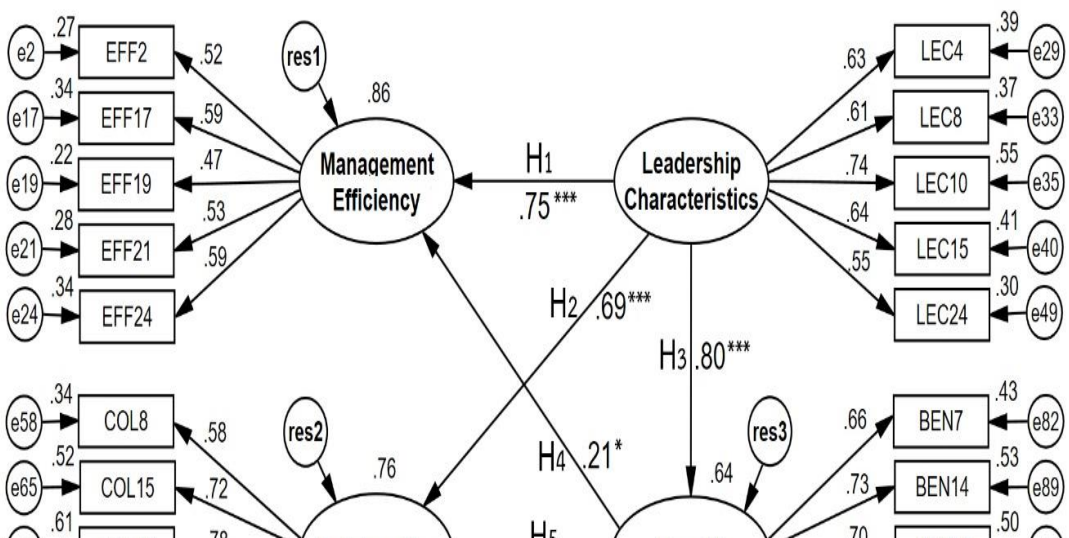


Figure 1. The Structural Equation Model on The Industrial Business Sector's Needs Towards The Role of The Provincial Federation of Industries After Modification

As shown in [Table 2](#), the analysis of the direct and overall influences of the modified structural equation model in Standardized Estimate mode revealed that leadership characteristics directly influenced the benefits the most with a Standardized Regression Weight of 0.80. In contrast, leadership characteristics influenced management efficiency the most, with a Standardized Regression Weight of 0.92.

6. DISCUSSION AND CONCLUSION

Comparing the needs of the industrial business sector to the role of the Provincial Federation of Industries as characterized by business locations, specifically within and outside the industrial estate area, indicated no statistically significant differences at the 0.05 level of significance. [Zhang et al. \(2014\)](#) and [Zhou et al. \(2020\)](#) discovered that industrial businesses established in and outside industrial estates desired the Federation of Industrial Estates to act as a central unit to coordinate with the industrial business sector and government agencies inside and outside industrial estates.

Table 1. Statistical Values Obtained from The Analysis of The Modified Structural Equation Model

Variables	Estimate		R^2	Variance	CR.	P
	Standard	Unstandard				
Leadership Characteristics				0.22		
Management Efficiency	0.75	0.58	0.86	0.02	6.33	***
Collaboration	0.69	0.64	0.76	0.05	6.49	***
Benefits	0.80	0.91	0.64	0.10	10.53	***
Benefit			0.64	0.10		
Management Efficiency	0.21	0.14	0.86	0.02	2.15	0.032
Collaboration	0.21	0.17	0.76	0.05	2.42	0.017
Leadership Characteristics				0.22		
Seek new, more efficient ways of doing work. (LEC4)	0.63	1.00	0.39	0.34		
Distribute works to the working group appropriately and correctly. (LEC8)	0.61	1.03	0.37	0.40	11.40	***
Be diligent, determined, devoted, and selfless to work for the organization to the best of one's ability. (LEC10)	0.74	1.33	0.55	0.32	13.38	***
Be humble and respectful of others. (LEC15)	0.64	1.10	0.41	0.38	11.80	***
Be in good health and well-being. (LEC24)	0.55	0.88	0.30	0.39	10.35	***
Benefits			0.64	0.10		
Receive the privilege of the special price of group health insurance. (BEN7)	0.66	1.00	0.43	0.38		
Receive support and assistance instead of control in establishing an industrial plant. (BEN14)	0.73	1.12	0.53	0.32	13.37	***
Have privilege to receive barcode services from the International Code Institute. (BEN15)	0.70	1.00	0.50	0.29	13.07	***
Improve the organization's labor skill quality with the help of the Provincial Federation of Industries. (BEN18)	0.56	0.78	0.31	0.39	10.75	***
Request for members to use the common area of the Provincial Federation of Industries for business meetings. (BEN25)	0.71	1.11	0.50	0.36	13.30	***
Management Efficiency			0.86	0.02		
Formulate and convey strategies as well as clear goals for concrete actions. (EFF2)	0.52	1.00	0.27	0.36		
Provide a system to produce documents on members' online and offline requests. (EFF17)	0.59	1.20	0.34	0.36	9.37	***
Gather knowledge and create a database that users can access and search anywhere. (EFF19)	0.47	1.00	0.22	0.47	8.00	***
Promote and encourage members to legally use intellectual properties. (EFF21)	0.53	1.15	0.28	0.43	8.82	***
Timely adjust the operational plans according to changing situations (EFF24)	0.59	1.18	0.34	0.35	9.29	***
Collaboration			0.76	0.05		

Table 1. Continued

Help members negotiate with financial institutions to charge the loan interest lower than the market price. (COL8)	0.58	1.00	0.34	0.36		
Create an easy-to-use application for collaborating with networks and members. (COL15)	0.72	1.30	0.52	0.29	12.00	***
Collaborate to exchange useful information among Provincial Federations of Industries. (COL16)	0.78	1.50	0.61	0.28	12.43	***
Use all channels of social networks to create the Provincial Federation of Industries' image and disseminate its works to build up confidence and acceptance among various agencies. (COL20)	0.65	1.20	0.42	0.37	11.12	***
Annually organize a general meeting every year between members and networks related to the Provincial Federation of Industries. (COL25)	0.56	1.05	0.32	0.44	10.06	***

*** Statistical significance level: 0.001

Table 2. Results of Direct Influence Analysis and Overall Influence of The Structural Equation Model after Modification

Variables	Leadership Characteristics	Benefits
Management Efficiency	0.92	0.21
Collaboration	0.86	0.21
Benefits	0.80	0.00

In addition, they desired the Provincial Federation of Industries executives to exhibit Super Leadership qualities (Munna, 2021) and serve as a conduit for fostering cooperation among industrial sector enterprises (Zheng et al., 2018). In addition, they desired financial and non-financial benefits from membership in the Provincial Federation of Industries. As soon as they recognize the benefits of belonging to the Provincial Federation of Industries, they join without hesitation (Kotzé et al., 2020).

Members of the Provincial Federation of Industries from the industrial sector desired effective administration. Specifically, it had to stick to every member's promise scrupulously. Therefore, all Provincial Federation of Industries members' commitments, information, and suggestions should be effectively managed. Aside from that, members should receive courteous treatment and have their ideas considered (Wang et al., 2021).

In this study, it was discovered that leadership attributes influence benefits. According to Thoroughgood et al. (2018), the leadership traits or executives of the Provincial Federation of Industries play a significant role in providing help to industrial businesses that are Federation members. The findings are likewise consistent with those of Munna (2021) in that when the Provincial Federation of Industries has a leader with admirable qualities, the Federation's members will reap the expected benefits. Therefore, the Provincial Federation of Industries leader should be able to give the necessary benefits to the businesses promptly. He should effectively analyze business situations and have an in-depth understanding of modern business technology. In addition, he should consider the adverse effects of corruption on himself, the corporate stability, and the nation as a whole, as well as listen to the opinions of others, be reasonable, set a good example, be moral and ethical, and not use corrupt powers for his benefit or the benefit of others (S. a. S. Wantanacomol, T. , 2020).

The industrial business sector desired for the Provincial Federation of Industries to have efficient management, allowing stakeholders such as members of the Federation, industrial customers, etc., to participate in the administration, set clear operational goals, systematically plan the operations, and clearly define the administrative structure of the Federation. There should be a transparent and effective internal control mechanism that can be implemented (Zhang & Morris, 2014).

Coordination of study tours to Provincial Federations of Industries, whose

administration has been successful in serving as a model, was identified as one of the needs of the industrial business sector concerning the Provincial Federation of Industries' role. This is consistent with the findings of [Montarnal et al. \(2015\)](#). They discovered that the Provincial Federation of Industries recognized the importance of establishing cooperation with government agencies both inside and outside industrial estates and organizations in the industrial sector with best practices through the sharing of human capital and technology. Knowledge, such as modern operating system technologies, should be transferred to Federation members by specialized personnel ([Kuhrmann et al., 2017](#)).

In a labor dispute, the Provincial Federation of Industries should act as an intermediary in coordination with the Department of Labor. This is because industrial business operations recognize labor as a crucial aspect of their enterprises' continued success. Disputes are more likely to occur in an industry with many employees. Negotiation will result in business owners not needing to prosecute employees, giving employees more time to continue working for the corporation ([Kotzé & Nel, 2020](#)).

7. RESEARCH IMPLICATIONS

Along with theoretical implications present study has several practical implications. The study's findings revealed that business industries have the center in service and coordinate for facilitating with a government agency about the business of members of Provincial Federations of Industries. In addition, businesses have networks to solve the problems the members' business. Provincial Federations of Industries can improve its managerial strategy to meet the business's requirement. Furthermore, government agency and related organizations can participate and coordinate in comments proposal to develop industrial economy through Provincial Federations of Industries. Moreover, government agencies can use key success factors from this research to publish or distribute to other related organizations. Similarly, businesses can use key success factors from this research to publish or distribute to other related organizations to improve their management efficiency.

8. LIMITATIONS

Despite several theoretical and practical implications, the present study has several limitations. First, due to the COVID-19 pandemic, the respondents collected the data online; therefore, it is difficult to ascertain whether the questionnaires were self-administered by the respondents. Moreover, there were 31 industrial sectors in Thailand, but due to sampling technique adopted in the study, it was not possible to get the participation of all sectors. Therefore, it is recommended for future research to choose systematic, stratified, or proportional sampling technique to represent the whole population.

9. SUGGESTIONS

The following recommendations are made to practitioners based on the findings of the

current study:

- i) The Federation of Thai Industries, which functions as an intermediary between government agencies and its members, shall submit future claims to the government and assist industrial firms in terms of associated laws and regulations to increase the competitive potential of businesses.
- ii) The Federation of Thai Industries must operate efficiently by carefully adhering to the norms of good governance to inspire confidence among Thai and foreign investors.
- iii) In addition to management that considers the needs of members, the Provincial Federation of Industries must also prioritize coordination with the community, both inside and outside of industrial estate areas, to enable organizations to function sustainably and remove operational impediments.

REFERENCE

- Alhakimi, Wail, & Mahmoud, Mohammed. (2020). The impact of market orientation on innovativeness: evidence from Yemeni SMEs. *Asia Pacific Journal of Innovation and Entrepreneurship*, 14(1), 47-59. doi:<https://doi.org/10.1108/APJIE-08-2019-0060>
- Alma, Hans, & ter Avest, Ina. (2019). *Moral and spiritual leadership in an age of plural moralities*: Routledge London.
- Anku, Joycelyn Samatha, Amewugah, Bless Kojo, & Glover, Mawutor K. (2018). Concept of reward management, reward system and corporate efficiency. *International Journal of Economics, Commerce and Management*, 6(2), 621-637. file:///C:/Users/DELL/Downloads/5y1.org_e98fa4ba83b48ef8733e76683c0d40f5-1.pdf
- Ansari, Jamal Abdul Nasir, & Khan, Nawab Ali. (2020). Exploring the role of social media in collaborative learning the new domain of learning. *Smart Learning Environments*, 7(1), 9. doi:<https://doi.org/10.1186/s40561-020-00118-7>
- Arbuckle, Tye E., Liang, Chun Lei, Morisset, Anne-Sophie, Fisher, Mandy, Weiler, Hope, Cirtiu, Ciprian Mihai, . . . Fraser, William D. (2016). Maternal and fetal exposure to cadmium, lead, manganese and mercury: The MIREC study. *Chemosphere*, 163, 270-282. doi:<https://doi.org/10.1016/j.chemosphere.2016.08.023>
- Baer, M, & Colquitt, Jason A. (2018). Moving toward a more comprehensive consideration of the antecedents of trust. *Routledge companion to trust*, 163-182.
- Campion, Linda. (2018). Leadership Styles: Considering Context and Climate. *TechTrends*, 62(4), 412-413. doi:<https://doi.org/10.1007/s11528-018-0305-6>
- Chen, Peng. (2021). Opinion Leaders, Short Videos and Virtual Communities in the Fashion Industry. In Wilson Ozuem & Silvia Ranfagni (Eds.), *The Art of Digital Marketing for Fashion and Luxury Brands: Marketspaces and Marketplaces* (pp.

- 51-79). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-70324-0_3
- Chowdhury, Bushra, Bart, Austin Cory, & Kafura, Dennis. (2018). *Analysis of Collaborative Learning in a Computational Thinking Class*. Paper presented at the Proceedings of the 49th ACM Technical Symposium on Computer Science Education, Baltimore, Maryland, USA. 143-148. <https://doi.org/10.1145/3159450.3159470>
- Council, Office of the National Economic and Social Development. (2020). The National Economic and Social Development Plan. 26, 17-26. <http://repo.komazawa-u.ac.jp/opac/repository/all/33682/kci026-02-yongvanit.pdf>
- Dong, Jianing, Wang, Xiao, Cao, Xuanwei, & Higgins, David. (2022). More Prosocial, More Ephemeral? The Role of Work-Related Wellbeing and Gender in Incubating Social Entrepreneurs' Exit Intention. *International Journal of Environmental Research and Public Health*, 19(7), 3999. doi:<https://doi.org/10.3390/ijerph19073999>
- Elkomy, Shima, & Cookson, Graham. (2020). Performance Management Strategy: Waiting Time in the English National Health Services. *Public Organization Review*, 20(1), 95-112. doi:<https://doi.org/10.1007/s11115-018-0425-7>
- Fuller, Sylvia, & Hirsh, C. Elizabeth. (2019). "Family-Friendly" Jobs and Motherhood Pay Penalties: The Impact of Flexible Work Arrangements Across the Educational Spectrum. *Work and Occupations*, 46(1), 3-44. doi:<https://doi.org/10.1177/F0730888418771116>
- Goncharova, NA, Kondratenko, IS, & Zamaraeva, EN. (2018). Economic mechanism of industrial enterprise resources management efficiency assessment. *The Journal of Social Sciences Research*, 4(12), 470-477. <https://ideas.repec.org/a/arp/tjssrr/2018p470-477.html>
- Gravetter, Frederick J, & Forzano, Lori-Ann B. (2018). *Research methods for the behavioral sciences*: Cengage learning.
- Industries, The Federation of Thai. (2020). Roles and Duties of the Federation of Thai Industries.
- Industry, Ministry of. (2020). Mission of Ministry of Industry.
- Islami, Xhavit, Mulolli, Enis, & Mustafa, Naim. (2018). Using Management by Objectives as a performance appraisal tool for employee satisfaction. *Future Business Journal*, 4(1), 94-108. doi:<https://doi.org/10.1016/j.fbj.2018.01.001>
- Kafouros, Marios, Love, James H., Ganotakis, Panagiotis, & Konara, Palitha. (2020). Experience in R&D collaborations, innovative performance and the moderating effect of different dimensions of absorptive capacity. *Technological Forecasting and Social Change*, 150, 119757. doi:<https://doi.org/10.1016/j.techfore.2019.119757>
- Karaca, Dilek, Özgül, Burcu, & Zehir, Cemal. (2021). The relationships among charismatic leadership, job satisfaction, and entrepreneurial orientation: An

- empirical study in the R&D department. *Business & Management Studies: An International Journal*, 9(4), 1521-1537. <https://doi.org/10.15295/bmij.v9i4.1944>
- Kosloff, Spee, & Solomon, Sheldon. (2020). Chapter 30 - The paradox of faith: how existential concerns motivate both prosocial and antisocial religious behaviors. In Kenneth E. Vail & Clay Routledge (Eds.), *The Science of Religion, Spirituality, and Existentialism* (pp. 435-454): Academic Press. <https://doi.org/10.1016/B978-0-12-817204-9.00031-7>
- Kotzé, Martina, & Nel, Petrus. (2020). The influence of job resources on platinum mineworkers' work engagement and organisational commitment: An explorative study. *The Extractive Industries and Society*, 7(1), 146-152. doi:<https://doi.org/10.1016/j.exis.2020.01.009>
- Kuhrmann, Marco, Fernández, Daniel Méndez, & Daneva, Maya. (2017). On the pragmatic design of literature studies in software engineering: an experience-based guideline. *Empirical Software Engineering*, 22(6), 2852-2891. doi:<https://doi.org/10.1007/s10664-016-9492-y>
- Kulikowski, Konrad, & Sedlak, Piotr. (2020). Can you buy work engagement? The relationship between pay, fringe benefits, financial bonuses and work engagement. *Current Psychology*, 39(1), 343-353. doi:<https://doi.org/10.1007/s12144-017-9768-4>
- Laasch, Oliver. (2018). Beyond the purely commercial business model: Organizational value logics and the heterogeneity of sustainability business models. *Long range planning*, 51(1), 158-183. doi:<https://doi.org/10.1016/j.lrp.2017.09.002>
- Leon, Hany, Osman, Hesham, Georgy, Maged, & Elsaid, Moheeb. (2018). System Dynamics Approach for Forecasting Performance of Construction Projects. *Journal of Management in Engineering*, 34(1), 04017049. doi:[https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000575](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000575)
- Meyers, Lawrence S, Gamst, Glenn, & Guarino, Anthony J. (2016). *Applied multivariate research: Design and interpretation*: Sage publications.
- Montarnal, Aurélie, Wang, Tiexin, Truptil, Sébastien, Bénaben, Frédéric, Laurus, Matthieu, & Lamothe, Jacques. (2015). A Social Platform for Knowledge Gathering and Exploitation, Towards the Deduction of Inter-enterprise Collaborations. *Procedia Computer Science*, 60, 438-447. doi:<https://doi.org/10.1016/j.procs.2015.08.162>
- Munna, Afzal. (2021). Strategic Management, Leadership and Staff Motivation: Literature Review. *International Education and Culture Studies*, 1(1), 21-29.
- Neuman, W Russell. (2018). The Paradox of the Paradigm: An Important Gap in Media Effects Research. *Journal of Communication*, 68(2), 369-379. doi:<https://doi.org/10.1093/joc/jqx022>
- Pearce, Craig L., Wassenaar, Christina L., Berson, Yair, & Tuval-Mashiach, Rivka. (2019). Toward a theory of meta-paradoxical leadership. *Organizational Behavior and Human Decision Processes*, 155, 31-41. doi:<https://doi.org/10.1016/j.obhdp.2019.03.003>

- Phuong, Tran Huy. (2020). Impact of Organizational Characteristics, CEO Education, and Firm Ownership on the Adoption and Effectiveness of High Performance Work System in Vietnam. *Organizations and Markets in Emerging Economies*, 11(21), 83-106. <https://www.ceeol.com/search/article-detail?id=870397>
- Pinto, Jonathan. (2019). Key to Effective Organizational Performance Management Lies at the Intersection of Paradox Theory and Stakeholder Theory. *International Journal of Management Reviews*, 21(2), 185-208. doi:<https://doi.org/10.1111/ijmr.12199>
- Rozentale, Ieva, & van Baalen, Peter J. (2021). Crafting business models for conflicting goals: Lessons from creative service firms. *Long range planning*, 54(4), 102092. doi:<https://doi.org/10.1016/j.lrp.2021.102092>
- Sarti, Daria, & Torre, Teresina. (2018). Reward Management in small–medium knowledge-intensive firms: Evidence from Italy. In *The Routledge Companion to Reward Management* (pp. 402-412): Routledge. <https://www.taylorfrancis.com/chapters/edit/10.4324/9781315231709-41>
- Strøm, Reidar Øystein, D'Espallier, Bert, & Mersland, Roy. (2014). Female leadership, performance, and governance in microfinance institutions. *Journal of Banking & Finance*, 42, 60-75. doi:<https://doi.org/10.1016/j.jbankfin.2014.01.014>
- Thoroughgood, Christian N., Sawyer, Katina B., Padilla, Art, & Lunsford, Laura. (2018). Destructive Leadership: A Critique of Leader-Centric Perspectives and Toward a More Holistic Definition. *Journal of Business Ethics*, 151(3), 627-649. doi:<https://doi.org/10.1007/s10551-016-3257-9>
- van Leeuwen, Anouschka, & Janssen, Jeroen. (2019). A systematic review of teacher guidance during collaborative learning in primary and secondary education. *Educational Research Review*, 27, 71-89. doi:<https://doi.org/10.1016/j.edurev.2019.02.001>
- Waldman, David A., Putnam, Linda L., Miron-Spektor, Ella, & Siegel, Donald. (2019). The role of paradox theory in decision making and management research. *Organizational Behavior and Human Decision Processes*, 155, 1-6. doi:<https://doi.org/10.1016/j.obhdp.2019.04.006>
- Wang, Zhen, Xing, Lu, & Zhang, Yuqi. (2021). Do high-performance work systems harm employees' health? An investigation of service-oriented HPWS in the Chinese healthcare sector. *The International Journal of Human Resource Management*, 32(10), 2264-2297. doi:<https://doi.org/10.1080/09585192.2019.1579254>
- Wantanakomol, S. (2021). The effect of guidelines on reducing logistics costs. *Uncertain Supply Chain Management*, 9(3), 667-674. doi:<http://dx.doi.org/10.5267/j.uscm.2021.5.003>
- Wantanakomol, S. and Silpcharu, T. (2017). A Structure Equation Modeling of Guidelines for Preventing Corruptions in Industrial Business Organizations. *International Journal of Applied Business and Economic Research*, 15(3), 469 - 477.

- Wantanakomol, S. and Silpcharu, T. . (2020). Strategy for Preventing Corruptions in Industrial Business Organizations with Delphi Technique. *Academy of Strategic Management Journal* ., 19(3), 1-7.
- Wasserman, A. and Rossell, T. . (2010). Membership Marketing Benchmarking Report.
- Xiao, Leon Y. (2022). Which Implementations of Loot Boxes Constitute Gambling? A UK Legal Perspective on the Potential Harms of Random Reward Mechanisms. *International Journal of Mental Health and Addiction*, 20(1), 437-454. doi:<https://doi.org/10.1007/s11469-020-00372-3>
- Zhang, Bo, & Morris, J. Llewelyn. (2014). High-performance work systems and organizational performance: testing the mediation role of employee outcomes using evidence from PR China. *The International Journal of Human Resource Management*, 25(1), 68-90. doi:<https://doi.org/10.1080/09585192.2013.781524>
- Zheng, Xian, Lu, Yujie, Le, Yun, Li, Yongkui, & Fang, Jun. (2018). Formation of interorganizational relational behavior in megaprojects: Perspective of the extended theory of planned behavior. *Journal of Management in Engineering*, 34(1), 04017052. [https://ascelibrary.org/doi/abs/10.1061/\(ASCE\)ME.1943-5479.0000560](https://ascelibrary.org/doi/abs/10.1061/(ASCE)ME.1943-5479.0000560)
- Zhou, Honggeng, & Li, Ling. (2020). The impact of supply chain practices and quality management on firm performance: Evidence from China's small and medium manufacturing enterprises. *International Journal of Production Economics*, 230, 107816. doi:<https://doi.org/10.1016/j.ijpe.2020.107816>