



ENVIRONMENTAL MANAGEMENT AND SUSTAINABILITY FACTORS OF BUSINESS ORGANIZATIONS LISTED ON THE STOCK EXCHANGE OF THAILAND*

การจัดการสิ่งแวดล้อมและปัจจัยความยั่งยืนขององค์กรธุรกิจที่จดทะเบียน
ในตลาดหลักทรัพย์แห่งประเทศไทย



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Abstract

This research aims to study the prioritization of environmental management and sustainability factors of organizations listed in the Stock Exchange of Thailand (SET). This study was quantitative research, which divided into 8 industry groups. A purposive random sampling among 148 companies during 2018-2020. The research tools were environmental management priority questionnaire with 16 main topics and 113 sub-issues.

The results showed that the industry category with the highest average score on the importance of factors involved in environmental management was the Industrials group: Resource, Property & Construction, Auto & Food Industry, Financials, Service, Technology and Consumer Products groups respectively. The highest average prioritization score in the environmental management factors were corporate social responsibility (CSR), Environmental management and Values and norms. Meanwhile, the lowest score in environmental management factors were Environmental issues for suppliers, Environmental management account and Green/Eco industry respectively. The importance of factors of Sustainable Development Goals (SDGs) were SDGs

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Goal 8 (Decent Work and Economic Growth) had the highest average score followed by Goal 13 (Climate Action) and Goal 3 (Good Health and Well-Being), with mean scores equal to 4.12, 3.95 and 3.37 respectively. The Sustainable Development Goals (SDGs) with the lowest priority score were SDGs Goal 2 (Zero Hunger), Goal 14 (Life Below Water) and Goal 1 (No Poverty) with mean scores equal to 1.50, 1.51 and 2.05 respectively. The results of this study could be used as information or guidelines for the organization's operations towards sustainability organization executives-could use them to set goals, activities and business development to achieve sustainability goals in the future.

Keywords: Sustainable Development Goals (SDGs); Environmental Management; Stock Exchange of Thailand (SET)

บทคัดย่อ

การศึกษานี้มีวัตถุประสงค์เพื่อศึกษาระดับความสำคัญของการจัดการสิ่งแวดล้อมและปัจจัยความยั่งยืนขององค์กรที่จดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทย ซึ่งการศึกษานี้เป็นการวิจัยเชิงปริมาณ โดยจำแนกเป็น 8 กลุ่มอุตสาหกรรม สุ่มตัวอย่างแบบเจาะจงจำนวน 148 บริษัทในช่วงปี พ.ศ. 2561-2563 เครื่องมือที่ใช้เป็นแบบประเมินความสำคัญของการจัดการสิ่งแวดล้อม 16 หัวข้อหลักและ 113 ประเด็นย่อย

ผลการวิจัยพบว่า กลุ่มอุตสาหกรรมที่มีระดับคะแนนความสำคัญเฉลี่ยสูงสุดในการจัดการสิ่งแวดล้อม ได้แก่ กลุ่มอุตสาหกรรม ทรัพยากร อสังหาริมทรัพย์ เกษตรและอาหาร การเงิน บริการ เทคโนโลยี และกลุ่มสินค้าอุปโภคบริโภค ตามลำดับ โดยปัจจัยที่มีความสำคัญสูงสุด คือ ปัจจัยความรับผิดชอบต่อสังคม การจัดการสิ่งแวดล้อม และค่านิยมและบรรทัดฐาน ปัจจัยที่มีความสำคัญต่ำสุด ได้แก่ ปัจจัยปัญหาด้านสิ่งแวดล้อมต่อซัพพลายเออร์ บัญชีการบริหารสิ่งแวดล้อม และอุตสาหกรรมสีเขียว ส่วนเป้าหมายการพัฒนาที่ยั่งยืนที่มีคะแนนเฉลี่ยสูงสุด คือ เป้าหมายที่ 8 เป้าหมายที่ 13 และเป้าหมายที่ 3 โดยมีค่าเฉลี่ยเท่ากับ 4.12 3.95 และ 3.37 ตามลำดับ เป้าหมายการพัฒนาที่ยั่งยืนที่มีคะแนนความสำคัญต่ำสุด ได้แก่ เป้าหมายที่ 2 เป้าหมายที่ 14 และเป้าหมายที่ 1 โดยมีคะแนนเฉลี่ยเท่ากับ 1.50 1.51 และ 2.05 ตามลำดับ ผลการศึกษานี้สามารถใช้เป็นข้อมูลหรือแนวทางการดำเนินงานขององค์กรสู่ความยั่งยืน ผู้บริหารองค์กรสามารถนำไปใช้ในการกำหนดเป้าหมาย กิจกรรม และพัฒนาธุรกิจให้บรรลุเป้าหมายด้านความยั่งยืนได้ต่อไปในอนาคต

คำสำคัญ: เป้าหมายการพัฒนาที่ยั่งยืน (SDGs); การจัดการสิ่งแวดล้อม; ตลาดหลักทรัพย์แห่งประเทศไทย



Introduction

The world's climate is rapidly changing which affects humans in many dimensions, both severe and more frequent disasters, cultivation and raising animals make it more difficult. The world's population is growing at an average of 75-80 million people annually and that is projected to reach 9 billion by the middle of the 21st century. While the area of cultivation and agriculture in the world has decreased. There is a chance that the world will face a crisis of food shortages. As a result of this challenge, in 2015, 195 countries around the world turned to cooperate in setting Sustainable Development Goals (SDGs), which is a development approach that meets the needs of the current generation without depriving the ability to respond to needs of the next generation (United Nations, 2016). The 17 Sustainable Development Goals comprised 169 targets and 247 indicators to monitor and assess development progress. The SDGs can be grouped according to factors that are linked in 5 dimensions (5P), namely: 1. People; eradication of poverty and hunger and reduce inequality in society. 2. Planet; gives importance to the protection and preservation of natural resources and climate for the next generation of global citizens. 3. Prosperity which promotes people's well-being and harmony with nature. 4. Peace based on the principle of peaceful coexistence that has a peaceful society and 5. Partnership; cooperation of all sectors in driving sustainable development agenda (SDG Move, 2023).

The Stock Exchange of Thailand (SET) was established by the SET Act B.E. 2517 to serve as a consulting center and exchange corporate governance ideas for currently listed companies' directors and executives. The industry group structure of listed companies operating in similar businesses for the appropriateness of comparison between each other and to be appropriate investment information. The grouping can be divided into 8 industry groups, namely: Agro & food industry, Consumer products, Financials, Industrials, Property & construction, Resources, Services and Technology (Stock Exchange of Thailand, 2021). Businesses must constantly adapt and develop themselves in order to survive and grow steadily and sustainably. Operating a business that not only focuses on financial performance but also on business organizations needs to balance the performance of the organization, both economically, socially and environmentally. Therefore, organizational development toward sustainability is



important for all businesses to integrate and drive concretely, which can be done in many ways according to the organizational context. According to the role of the Stock Exchange of Thailand in setting goals for business organization development during management challenges and sustainable development trends.

Consequently, the researcher is interested in studying the environmental management of the business organization listed on the Stock Exchange of Thailand towards becoming a sustainable organization. The prioritization of environmental management and related factors in business operations of listed organizations in the Stock Exchange of Thailand, to comparative of the factors in the business of listed organizations in the SET classified by industry category. The results of this study can be used as information or guidelines for the organization's operations toward sustainability, which the executives can use to set goals, activities and business development to achieve sustainability goals in the future.

Research Objectives

1. To study the prioritization of environmental management and related factors in the business operations of organizations listed on the Stock Exchange of Thailand.

- 2.To compare the environmental management factors and sustainable development goals involved in the business operations of organizations listed on the Stock Exchange of Thailand classified by industry groups.

Methodology

The purpose of this study were to study the prioritization of environmental management and the related factors of sustainable development goals involved in the business operations of organizations listed on the Stock Exchange of Thailand classified into 8 industry groups during the years 2018-2020 by purposive sampling amount 148 companies with prescribing criteria for selecting industry groups and accuracy of information obtained from sustainability reports.

The tools in the study are the 5-rating scale for assessment of the prioritization of environmental management and related factors in business operations of listed companies on the SET. The interpretation criteria are as follows: 1.00-1.80 (Not important), 1.81-2.60 (Low important), 2.61-3.40 (Moderate



important), 3.41-4.20 (High important) and 4.21-5.00 (Very high important), that has been designed and developed from a questionnaire of Professor Dr. Katsuhiko Kokubu, Faculty of Business Administration Kobe University Japan which was used in the assessment in Germany and Japan (Kokubu et al., 2019), contains data on environmental management 16 factors namely; Environmental issues, Stakeholders, Environmental management, Values and norms, Manpower, Sustainability and Environmental activities, Environmental performance management, Environmental decisions, Environmental management account, Environment contributions, Environmental indicators, Environmental issues to suppliers, Supplier's relations, Circular economy, Corporate social responsibility (CSR), Green/Eco-industry and Sustainable Development Goals (SDGs).

The data collection and statistics in this study used the results of assessing the sustainability report of master's degree students in the environmental management program, National Institute of Development Administration in which completeness and accuracy of the data were reviewed in accordance with the study requirements. For the prioritization of environmental management and Sustainable Development Goals in the business organizations listed on the Stock Exchange of Thailand used the interpretation criteria between not important to very high important as the study criteria. In the part comparing the environmental management factors in the business operations of organizations listed on the Stock Exchange of Thailand classified by industry groups used Multivariate Analysis of Variance (MANOVA) and use Scheffe to compare the differences between variables.

Results

The study of environmental management and sustainability factors of the business organization listed on the Stock Exchange of Thailand can be summarized the result as follows:

1. The number and percentage of the companies listed on the Stock Exchange of Thailand are classified into 8 industry groups; most industry groups in this study were Resource (n=34, 22.52%), Service (n=30, 19.23%), Agro & food industries (n=29, 19.21%), Property (n=22, 14.57%), Industrials (n=15, 9.93%),

Financials (n=8, 5.29%), Technology (n=6, 5.3%) and Consumer Products (n=4, 2.65%) respectively.

2. The average score of prioritizations for each environmental management factor in business organizations listed on the Stock Exchange of Thailand. (See Table 1)

Table 1 The average score of prioritizations for each environmental management factor in business organizations listed on the Stock Exchange of Thailand classified by industry groups.

Environmental Management Factors	Industry category								Average score	Ranking	Prioritization level
	AGRO	CONS	FINA	INDU	PROP	RESO	SERV	TECH			
Env. issues	3.56	2.91	3.27	3.99	3.53	4.15*	3.19	3.33	2.97	5	Moderate
Stakeholders	3.17	2.47	3.37	3.40*	2.99	3.11	2.79	3.07	2.62	8	Moderate
Env. management	3.87	3.32	3.91	4.46	4.08	4.61*	3.80	3.89	3.42***	2	High
Values and norms	3.71	3.40	3.30	4.08	3.97	4.29*	3.69	3.96	3.26***	3	Moderate
Manpower	2.92	4.17*	2.50	3.33	3.02	3.51	2.58	2.93	2.60	10	Low
Sustainability and env. activities	2.77	3.35	3.05	3.51*	3.05	3.36	3.32	2.32	2.65	7	Moderate
Env. performance management	2.40	2.81	3.32	3.43*	2.86	3.17	3.30	2.65	2.56	11	Low
Env. decisions	3.43	3.04	3.52	4.30*	3.61	4.13	3.70	3.33	3.10	4	Moderate
Env. management account	2.46	1.88	2.21	2.96*	2.36	2.81	2.31	2.10	2.02**	15	Low
Env. contributions	3.60	2.29	3.57	4.18*	3.47	3.85	3.47	2.91	2.90	6	Moderate
Env. indicators	2.96	2.75	2.91	3.75*	2.82	3.66	2.97	2.85	2.62	9	Moderate
Env. issues for suppliers	2.37	2.11	2.47	2.46	2.17	2.52	1.88	2.80*	2.00**	16	Low
Supplier's relations	2.26	3.05	2.53	3.16*	2.90	2.83	2.05	1.96	2.20	12	Low
Circular economy	2.52	2.88	1.81	3.97*	2.62	2.52	2.28	2.30	2.12	13	Low
CSR	4.43	4.13	4.69*	4.47	4.16	4.64	4.23	3.60	3.71***	1	High
Green/Eco industry	2.30	1.88	2.06	3.93*	2.93	2.92	1.82	2.70	2.08**	14	Low
Average score	3.05	2.90	3.03	3.71*	3.16	3.25	2.96	2.92	2.97		Moderate
Ranking	4	8	5	1	3	2	6	7			

* The highest average score of prioritizations of the environmental management factors in each industry group

** The lowest average score of prioritizations of the environmental management in each factor

*** The highest average score of prioritizations of the environmental management in each factor



Table 1 shows that the industry category with the highest average score of the prioritization factors involved in environmental management was the Industrials (INDU) group equal to 3.71, followed by the Resource (RESO) (3.25), Property & Construction (PROP) (3.16), Argo & food industry (ARGO) (3.05), Financials (FINA) (3.03), Service (SERV) (2.92), Technology (TECH) (2.92) and Consumer products (CONS) (2.90) respectively. The highest average prioritization score in the environmental management factors were Corporate Social Responsibility (CSR), Environmental management and Values and norms, meanwhile, the lowest score in environmental management factors were Environmental issues for suppliers, Environmental management account and Green/Eco industry respectively.

3. The average score of prioritizations for Sustainable Development Goals (SDGs) in business organizations listed on the Stock Exchange of Thailand. (See Table 2)

Table 2 The average score of prioritizations for Sustainable Development Goals (SDGs) in business organizations listed on the Stock Exchange of Thailand classified by industry groups.

Industry Group	Sustainable Development Goals (SDGs)					
	Top 3 most prioritization			The 3 least important		
	GOAL 8	GOAL 3	GOAL 12	GOAL 14	GOAL 5	GOAL 10
Argo & Food Industry (ARGO)	4.36	4.04	3.93	1.93	2.14	2.43
Consumer Products (CONS)	4.25	4.00	4.00	1.00	1.25	1.50
Financials (FINA)	4.00	3.20	3.20	0.60	0.60	1.00
Industrials (INDU)	4.47	4.13	4.07	0.87	1.93	2.07
Property & Construction (PROP)	4.32	4.27	3.95	1.23	1.23	2.55
Resource (RESO)	4.45	4.45	4.30	0.97	1.42	1.64
Service (SERV)	3.97	3.93	3.60	1.53	1.60	1.70
Technology (TECH)	4.00	3.20	3.20	0.60	0.60	1.00
Overview	4.12	3.95	3.73	1.50	1.51	2.05

Note: SDGs; GOAL 1: No Poverty, GOAL 2: Zero Hunger, GOAL 3: Good Health and Well-being, GOAL 4: Quality Education, GOAL 5: Gender Equality, GOAL 6: Clean Water and Sanitation, GOAL 7: Affordable and Clean Energy, GOAL 8: Decent Work and Economic Growth, GOAL 9: Industry, Innovation and Infrastructure, GOAL 10: Reduced Inequality, GOAL 11: Sustainable Cities and Communities, GOAL 12: Responsible Consumption and Production, GOAL 13:

Climate Action, GOAL 14: Life Below Water, GOAL 15: Life on Land, GOAL 16: Peace and Justice Strong Institutions and GOAL 17: Partnerships to achieve the Goal.

From Table 2, the highest average in each industrial group shows that the Agro & Food Industry (ARGO) has the highest priority score for SDG goal 8: Decent work and economic growth same as the Consumer Products and Resource group. Meanwhile, Financials and Technology have the highest priority score for SDG goal 17: Partnerships to achieve the Goal. Industrials, Property and Service have the highest priority score for SDG goals 13, 9 and 3 respectively. The overview of the average score on the prioritization of factors involved in Sustainable Development Goals (SDGs) were SDGs Goal 8 (Decent Work and Economic Growth), Goal 13 (Climate Action) and Goal 3 (Good Health and Well-being), with mean scores equal to 4.12, 3.95 and 3.37 respectively. The Sustainable Development Goals (SDGs) with the lowest priority score were SDGs Goal 2 (Zero Hunger), Goal 14 (Life Below Water) and Goal 1 (No Poverty) with mean scores equal to 1.50, 1.51 and 2.05 respectively. (See Figure 1)



Figure 1 The overview of the importance of the Sustainable Development Goals (SDGs) in business organizations listed on the Stock Exchange of Thailand.

4. The overview of the average score of prioritizations for Sustainable Development Goals (SDGs) in business organizations listed on the Stock Exchange of Thailand. (Figure 1)



5. The Multivariate Analysis of Variance of environmental management factors in the business organizations listed on the Stock Exchange of Thailand. (See Table 3)

Table 3 Multivariate analysis of variance test of Environmental Management Issues of Business Organizations Listed in the Stock Exchange of Thailand Classified by industry groups.

Environmental Management Factors	Wilks' lambda value	F	Hypothesis df	Error df	p
Environmental issues	.368	1.853*	77.000	786.458	.000
Stakeholders	.382	1.260	105.00	815.809	.051
Environmental management	.492	2.095*	49.000	684.718	.000
Values and norms	.755	1.136	35.000	574.530	.275
Manpower	.884	.827	21.000	396.812	.686
Sustainability and env. activities	.795	.919	35.000	574.530	.605
Env. performance management	.838	.887	28.000	495.383	.635
Environmental decisions	.644	1.490*	42.000	636.658	.026
Env. management account	.690	1.249	42.000	636.658	.139
Environment contributions	.665	1.170	49.000	684.718	.204
Environmental indicators	.777	1.284	28.000	495.383	.153
Env. issues for suppliers	.580	1.209	63.000	749.539	.135
Supplier's relations	.774	1.031	35.000	574.530	.422
Circular economy	.918	.872	14.000	278.000	.591
CSR	.877	1.349	14.000	278.000	.178
Green/Eco-industry	.886	1.243	14.000	278.000	.244

Test of between-subjects effect

Dependent variable	Source of variance	SS	df	MS	F	p-value
Env. issues: Envi. Innovation	Group	86.443	7	12.349	5.303	.000*
	Error	326.009	140	2.329		
Env. management: Establish env. management as a business strategy	Group	52.115	7	7.445	5.301	.000*
	Error	196.615	140	1.404		
Env. management account: Set SDGs as business goals	Group	49.264	7	7.038	3.220	.003*
	Error	306.033	140	2.186		

Multiple comparisons: Scheffe

Dependent variable	Industry groups	Mean Difference	Std. Error	p
Env. issues: Env. Innovation	SERV-RESO	1.82*	382	.003
Env. management: Established env. management as a business strategy	INDU-TECH	2.30*	572	.030
Env. management account: Set SDGs as business goals	TECH-RESO	-2.62*	655	.031

* Statistically significantly different $p < .05$

The results of the comparison of the Multivariate Analysis of Variance of environmental management factors of business organizations listed in the Stock Exchange of Thailand classified by industry groups shows that the factor of environmental issues in sub-issues of environmental innovation between Service and Resource groups were statistically significantly different ($p = .003$). The factor of environmental management in sub-issues of established environmental management as a business strategy between Industrial and Technology groups were statistically significantly different ($p = .030$) and the factor of environmental decisions in sub-issues of set SDGs as business goals between Technology and



Service groups were statistically significantly different ($p = .031$), which accepts the hypothesis of the environmental management prioritization levels in each industry group listed on the Stock Exchange of Thailand were statistically significantly different $p < .05$.

Discussion

The results of the prioritization of the environmental management, Sustainable Development Goals (SDGs) and factors related to business organizations in the Stock Exchange of Thailand (SET) classified into 8 industry categories 148 companies by evaluating the sustainability report during the year 2018-2020. The discussion of the study results by considering the research objectives was as follows.

1. The environmental management factors of business organizations listed in the Stock Exchange of Thailand classified by industry groups. The overview shows that the highest average score of the importance of factors involved in environmental management were the Industrials group equal to 3.71, followed by the Resource (3.25), Property & construction (3.16), Argo & food industry (3.05), Financials (3.03), Service (2.92), Technology (2.92) and Consumer products groups (2.90) respectively, which is consistent with another research that the categories of Industries with high environmental impact, such as Argo & food industry, Chemical, Forestry and Paper industries, which had more disclosure of environmental management information than those with low environmental impact. (Choi, 2000). The industries with high environmental impact were positively correlated with environmental management information disclosure (Suttipun, 2012). On the other hand, this study shows the industry with the lowest level of environmental prioritization was the Technology and Consumer products groups consistent with a study of the environmental management competency level of listed companies in the Stock Exchange of Thailand that the competency level for the overall market had the lowest score was Technology industry group (Kitkasemsin et al., 2022). In addition, the industries with low environmental impact include the Service industry, Health industry, Computer and Technology industries, which will have less disclosure of environmental management information than those with high environmental impact too. The explanation



agreed well this research could be concluded that the industries with high environmental impact needs to be more environmental management than those with less environmental and social impact, and compliance with the law and regulations.

When considering the prioritization level of the environmental management factors in each industry group, it found that the factor of the Corporate Social Responsibility (CSR) (3.71), Environmental management (3.42) and Values and norms (3.62) had the highest score of environmental management issues which is consistent with the study of Machmuddah et al. (2020) reports the Corporate Social Responsibility has a positive effect on enterprise value considers the costs associated with Corporate Social Responsibility, Stakeholders and Environmental performance. However, the lowest scores of the prioritization level in environmental management issues were Environmental issues for suppliers (2.00), Environmental management account (2.02) and Green/Eco-industry (2.08) respectively, consistent with the study results of Kitkasemsin et al. (2022) show the sub-issues of the environment management accounting and supplier had the lowest score on the environmental management process factors. Explain that these issues were not mentioned in the sustainability report, most industry groups placed a little emphasis on this issue in their sustainability reports due to voluntary disclosure and not compulsory in Thailand. However, business organizations should realize that sustainability disclosure is a mechanism for providing information about concepts, goals and developments. Sustainability disclosures should be based on accepted reporting practices or full disclosure of materiality and quality followed by the developing reporting frameworks at the national level, such as the Securities and Exchange Commission (SEC) and at the international level, such as the International Standardization and Organization (ISO) and the Global Reporting Initiative (GRI) and the organization should focus on all relevant issues in the sustainability report to cover all 3 dimensions of the economy, society and environment as well as create a good appearance for the organization. Therefore, will make it easier for stakeholders or those interested in investing to make joint investment decisions with the business organization. This will develop the business to be successful and sustainable in business operations in the future.



2. The Sustainable Development Goals (SDGs) of business organizations listed in the Stock Exchange of Thailand classified by industry groups in the overview shows that the highest average score of Sustainable Development Goals was Goal 8 (Decent Work and Economic Growth), Goal 13 (Climate Action) and Goal 3 (Good Health and Well-being) respectively. And the most Sustainable Development Goals (SDGs) that have the lowest scores were Goal 2 (Zero Hunger), Goal 14 (Life Below Water) and Goal 1 (No Poverty) respectively. However, when considering each industrial group found that the Agro & Food Industry has the highest priority score for SDG goal 8 same as the Consumer Products and Resource group. Meanwhile, Financials and Technology have the highest priority score for SDG goal 17 (Partnerships to achieve the goal). Industrials, Property and Service have the highest priority score for SDG goals 13, 9 and 3 respectively. The results of this study are consistent with the report on the world situation and Thailand report (SDG Move, 2023), which shows that there are two SDG goals that tend to adapt better in SDG goal 1 (No Poverty) and goal 4 (Quality Education) but SDGs that are still very challenging for the past 3 years (2021-2023) in Thailand are SDG 2 (Zero Hunger), 3 (Good Health and Well-being), 14 (Life Below Water), 15 (Life on Land) and 16 (Peace and Justice Strong Institutions). Although sustainable development of Thailand was ranked 43rd in the world with an index score of 74.7, an increase of 19.45% compared to the score in 2016, and remains the number 1 in ASEAN for the fifth consecutive year. (Intaprasert, 2023). But anyway, all sectors involved in government will need to review the measures already taken, the obstacles and continue to drive towards achieving sustainability by setting a national long-term strategy developed pursuant to the constitution according to Thailand's 20-year national development policy. To ensure that Thailand achieves its vision of becoming with the goal being all Thai people's happiness and well-being.

As the result, it can be concluded that SDG goal 1 (No Poverty), goal 2 (Zero Hunger) and goal 14 (Life Below Water) are less important to most organizations than other sustainability goals because they do not impact the operated to work of listed companies but emphasizing the importance of economic development with more monetary or income (Goal 8; Decent Work and Economic Growth). In addition, the global trend is paying attention to climate



change, preventing and solving global warming problems. Therefore, most companies are more committed to solving these problems and able to better meet the needs of stakeholders and investors to invest in them.

3. The multivariate analysis of variance test of environmental management issues of business organizations listed in the Stock Exchange of Thailand classified by industry groups found that; the factor of environmental issues in sub-issues of environmental innovation between Service and Resource groups were statistically significantly different ($p = .003$), the factor of environmental management in sub-issues of established environmental management as a business strategy between Industrial and Technology groups were statistically significantly different ($p = .030$) and the factor of environmental decisions in sub-issues of set SDGs as business goals between Technology and Service groups were statistically significantly different ($p = .031$).

From the result, it can be concluded that the environmental management factors of business organizations listed in the Stock Exchange of Thailand classified by industry groups, these factors can vary depending on the industry types and the specific context, such as regulatory compliance (environmental regulations and laws), resource efficiency (energy, water and raw materials) to minimize waste and environmental impact, pollution prevention and control to reduce emissions and control waste generation is a key concern in environmental management especially in Industrial groups, but in the Technology group will focus on business operations to invent new technologies and innovations that mainly meet the needs of customers. Sustainability and environmental performance, stakeholder engagement was essential for effective environmental management especially in Resource and Argo and food industry groups. In addition, risk assessment to identify and assess a business operation's potential is important for the Financial group. The reporting and transparency to disclose their environmental performance and promote transparency, especially in Service groups. However, the importance to operate the business is not only focused on the economic aspect alone but also paying attention to the environment social and governance development (ESG integration) go hand in hand to be a successful and sustainable organization in the future.

Body of Knowledge

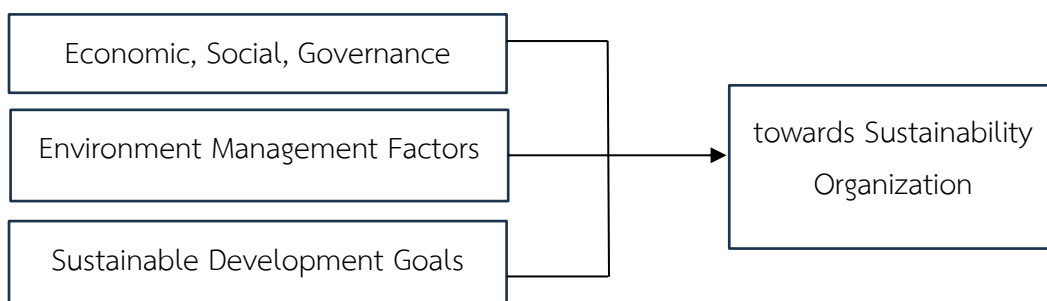


Figure 2 Body of knowledge

From the diagram, it can be concluded that the principles of business operations towards a sustainable organization must be conducted with regard to economic, social, governance, environmental and sustainable development; such as economic development creating the necessary infrastructure for life together with sustainable and environmental management by taking measures to reduce emissions, conserve resources and manage waste efficiently, improved operational efficiency and reduced risks, increases the company's reputation and attractiveness to investors who value sustainability. Employee well-being, diversity and inclusion community involvement and human rights, build better employee morale increased productivity and better reputation of the organization, and attract investors who value corporate social responsibility. Efficient transparent management with good corporate governance, ethical decision-making and effective risk management that will affect the organizations listed on the Stock Exchange of Thailand to become a sustainable organization.

Recommendations

Recommendations

1. The Stock Exchange of Thailand should be defined the key topics, main issues, and sub-issues in the sustainability report, clearly and cover economic, social and environmental aspects. the sustainability report is consistent with the type of business organization or industry group listed on the Stock Exchange of



Thailand, that for the best benefit of those who are interested in deciding to invest in that industry group.

2 . Executives or those involved in the preparation of corporate sustainability reports should have knowledge and understanding of the issues that need to be disclosed to stakeholders, to know necessary and important information, accurate reporting of information and transparency. The sustainability reports should be presented in a concise, easy-to-understand and more attractive format.

Operational Recommendations

For the reader, who will use the results of this study, should study the sustainability reporting format of an organization listed on the Stock Exchange of Thailand. that covers all 3 dimensions; including the economic, societal, and environmental dimensions. To maximize the benefit of reading and making decisions to invest in the desired industry group more efficiently.

Recommendations for Next Research

In terms of factors related to environmental management and the goals of sustainable business operations obtained from the results of this study may change according to the context of economic conditions, society and environmental situations that are constantly changing. Therefore, the results of this study can be used to compare trends or directions of change in the operations of business organizations in various industries in the future.

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