

# Components and Indicators of Education Management According to Sub-District Non-Formal and Informal Education Centre Standards for Excellence

Sanit ARSATHONG<sup>1\*</sup>, Suwat JULSUWAN<sup>2</sup>

<sup>1</sup>Student in Doctor of Education (Educational Administration and Development), Faculty of Education, Mahasarakham University, Thailand

<sup>2</sup>Professor in Doctor of Education (Educational Administration and Development), Faculty of Education, Mahasarakham University, Thailand

## Keywords:

Organizational Leadership and Strategic Planning;  
Learner and stakeholder Focus;  
Personnel Focus;  
Process Management and Outcomes

Author's Email :  
sanit11072519@gmail.com,  
suwat.j@msu.ac.th

**Received** : 08.07.2023

**Revised** : 04.11.2023

**Accepted** : 06.11.2023

## ABSTRACT

The research aims to study components and indicators of education management according to Sub-District Non-Formal and Informal Education Centre Standards for Excellence. To obtain the components and indicators of educational management according to the Sub-District Non-Formal and In-Formal Education Centre Standards for Excellence. The tools used for data collection were document recording forms and a form to assess the suitability of components and indicators by confirming the elements and indicators from the 9 experts. The results of the study showed that 1) the Components and Indicators consisted 7 components: (1) Organizational Leadership, (2) Strategic Planning, (3) Learner and Stakeholder focus, (4) Measurement, Analysis, and Knowledge Management, (5) Personnel focus, (6) Process management, and (7) outcomes. Considering each indicator of each component, it was found that in terms of the highest level of appropriateness. In conclusion, the administrators can be applied to the development of the Sub-District Non-Formal and Informal Education Center for enhancing the ability of Sub-District Non-Formal Education to compete with other organizations and be able to exist according to the ever-changing environment and/or factors, continuous improvement, and development.

**How to cite this article:** ARSATHONG S, JULSUWAN S (2024). Components and Indicators of Education Management According to Sub-District Non-Formal and Informal Education Centre Standards for Excellence. International Online Journal of Education and Teaching, Vol. 11, No. 1, 2024, 78-86

## INTRODUCTION

Education reforms under the National Education Act B.E. 2542 (1999) led to several changes in the Thai education system. According to the Non-Formal Education and Informal Education Act B.E. 2551

(2008), this is considered a framework for education management.

Section 4 defines educational management guidelines as follows: non-formal education is an educational activity with a clear target group of

service recipients and learning objectives. There is a curriculum format. Flexible and varied methods and duration of classes or training according to the needs and learning potential of the target group. As well as having standardized methods of measuring and evaluating learning outcomes to obtain educational qualifications or to grade learning outcomes, independent education is a learning activity in a person's daily life, which can choose to learn continuously throughout life according to their interests. Individual needs, opportunities, readiness, and learning potential. It also gives importance to those involved in their roles and duties, (Kokkalia et al., 2019; Azimovna, 2020) such as learning managers for non-formal education and learning resource organizers for independent education.

Section 10 also requires government agencies, relevant government agencies, and network partners to promote and support the creation and development of diverse learning resources. Section 11 stipulates that government agencies, relevant government agencies, and network partners promote and support the provision of learning infrastructure such as learning resources, community learning centers, media, and various technologies to provide learners with access to learning.

Section 18 stipulates that educational institutions are responsible for promoting, supporting, coordinating, and organizing non-formal education and independent education in collaboration with network partners and operations by establishing community learning centers as units for community learning activities and creation, which are distributed in all sub-districts of Bangkok and sub-districts for other provinces (Government Gazette, 2551 (2008)).

The Office of the Non-Formal Education and Informal Education (NFE). Therefore, the Community Learning Center (CLC) status has been changed to a sub-district council using the community as a base for organizing education and learning for the people in the area (Office of the Non-formal Education and Informal Education, 2008).

A Sub-District Non-Formal and Informal Education Centre is the educational service unit that is closest to the community. (Muhammad et.al., 2019; Markony, 2020) Therefore, driving community-based tasks. It

requires several important factors to achieve the objectives appropriately they should, such as building good relationships with the community. Use of resources in the community, both as individuals and as learning resources. (Huang et.al., 2020; Hasanah et.al., 2021) Building cooperation and participation in various activities, both Non-Formal and Informal Education Centre activities and community activities.

After assessing the performance of the Sub-district Non-Formal and Informal Education Centre many times, it was found that many places still have problems in many areas and are unable to meet the spirit of non-formal education that must be flexible and able to develop learners for real learning. (Manurung et.al., 2021; Elihami et.al., 2019) In terms of the quality of management, the quality of learners or service recipients, teaching materials, materials, and equipment that are lacking and not of good quality, as well as educational networks in various areas are not as connected to work as they should.

At present, there is a lack of educational management style. The quality and standard of A Sub-District Non-Formal and Informal Education Centre are the same. (Fakhruddin, 2019). It causes mutual misunderstanding. The community does not benefit from the District Council as much as it should. Lack of promotion of local talented personnel to participate in development. The community lacks interest in the activities of the Sub-district Non-Formal and Informal Education Centre. (Varghese et.al., 2023)

For reasons of necessity as mentioned above. Therefore, the researcher intends to study the composition and indicators of education management according to the standards. (Rossi et.al., 2020; Kharazishvili et.al., 2020) To develop the quality of education of the MEC to continuously improve the quality of education and achieve sustainable excellence. Fulfill the spirit of the Constitution of the Kingdom of Thailand B.E. 2560 (2017), National Education Act B.E. 2542 (1999), and as amended.

## RESEARCH PURPOSE

To study the Components and Indicators of educational management according to the Sub-District Non-Formal and Informal Education Centre Standards for Excellence.

## RESEARCH DESIGN

The study of the Composition and Indicators of Educational Management according to Sub-District Non-Formal and Informal Education Centre to the standards for Excellence as follows:

1. Study of elements and indicators by the principles and concepts from documents, textbooks, and related domestic and international research.
2. Analysis, synthesis, principles, concepts, and theories from papers, textbooks, and research
3. Organize and analyze content data.
4. Calculate the Statistics Average and standard deviation.
5. Confirmation of composition and indicators.

## Participants

Confirmation of composition and indicators by a total of 9 experts by choosing Purposive Sampling.

## Data collection tools

Tools used to collect data, document notes, and assessments of the suitability of elements and indicators and collection. The criteria are defined as 5-grade levels as follows: Level 5 means that the components and indicators of educational management are suitable according to the Sub-District Non-Formal and Informal Education Centre standards for Excellence at the

highest level. Level 4 means that at the high level. Level 3 means that at the moderate level. Level 2 means that at the low level and level 1 means that the lowest level.

## Data analysis

Organizing and analyzing data, accuracy, and completeness with 5 levels of scoring criteria analysis of the researcher data was carried out as follows: The obtained scores are analyzed to determine the mean and standard deviation of opinions on the composition and indicators. The Sub-District Non-Formal and Informal Education Centre standards for Excellence by analyzing the mean and standard deviation and comparing them with the interpretation criteria (Srisaard, 2013).

## DISCUSSION OF RESULTS

The results of this study are shown in Table 1 and Table 23

From the Table above, it was found that the results of the analysis of the degree of suitability of the composition of education management according to the Sub-District Non-Formal and Informal Education Center standards for excellence in each component were as each indicator at the highest level and overall, the components have the highest level of suitability.

**Table 1: Composition and indicators of education management components according to the Sub-District Non-Formal and Informal Education Centre standards for excellence.**

Components	Indicators
1. Organizational Leadership	1. Organizational Leadership of Senior Leaders.
	2. Corporate governance and social giving.
2. Strategic Planning	1. Strategy preparation
	2. Strategy implementation
3. Learners and stakeholder Focus	1. Learners' and stakeholders' expectations
	2. Learners' and stakeholders' commitment
4. Knowledge Measuring, Analysis, and Management	1. Measuring, analyzing, and improving performance results
	2. Information Management and Knowledge Management
5. Personnel Focus	1. Personnel engagement
	2. Personnel environment
6. Process Management	1. Work process
	2. Effectiveness of operations

**Table 2: Shows the mean, standard deviation, and the degree of suitability of Composition and indicators of education management components according to the Sub-District Non-Formal and Informal Education Centre standards for excellence by 9 experts as shown below.**

Components & Indicators		S.D.	The degree of suitability
<b>1. Organizational Leadership</b>			
1.1 Organizational Leadership of Senior Leaders.	5.00	.00	Highest
1.2 Corporate Governance and Social Giving.	5.00	.00	Highest
Total	5.00	.00	Highest
<b>2. Strategic Planning</b>			
2.1 Strategy Preparation	4.78	.44	Highest
2.2 Strategy Implementation	4.56	.73	Highest
Total	4.67	.35	Highest
<b>3. Learners and stakeholder Focus</b>			
3.1 Learners' and Stakeholders' Expectations	4.78	.44	Highest
3.2 Learners' and Stakeholders' Commitment	4.56	.53	Highest
Total	4.67	.43	Highest
<b>4. Knowledge Measuring, Analysis, and Management</b>			
4.1 Measuring, Analyzing, and Improving Performance Results	4.44	.88	High
4.2 Information Management and Knowledge Management	4.33	1.12	High
Total	4.39	.86	High
<b>5. Personnel Focus</b>			
5.1 Personnel engagement	4.56	.73	Highest
5.2 Personnel environment	4.44	.73	High
Total	4.51	.61	High
<b>6. Process Management</b>			
6.1 Work process	4.67	.71	Highest
6.2 Effectiveness of operations	4.78	.44	Highest
Total	4.72	.44	Highest
<b>7. Outcomes</b>			
7. 1. Management	4.89	.33	Highest
7.2 Corporate Governance and Social Giving.	4.33	1.00	High
7.3 Participation	4.78	.44	Highest
7.4 Monitoring, Evaluating, and Reporting Results	4.44	.88	High
Total	4.61	.44	Highest
Overall	4.65	.37	Highest

Considering each indicator of each component, it was found that in terms of the highest level of appropriateness, it was 1. Lead Organization of Senior Leaders and 2. Corporate governance and social

giving. Overall, the indicator is appropriate to the greatest extent. Next, Strategic Planning Elements. The indicators with the most appropriate level are 1. Strategy preparation and 2. Strategy Implementation.

Overall, the indicator is appropriate to the greatest extent. Then, for Learner and stakeholder Focus, the indicators with the most appropriate level are Learners' and stakeholders' expectations and learners' and stakeholders' commitment. Overall, the indicators were appropriate at the highest level. Next, Personnel Focus, the most appropriate level is Personnel Engagement. Indicators with a high level of suitability are personnel and environment. Overall, the indicator is appropriate to a large extent. Then, in Process management, the highest levels of appropriateness were 1. Work process and 2. Effectiveness of operations. Overall, the indicators were appropriate at a high level. Finally, Outcomes at the most appropriate level are management and Participation. Indicators with a high level of suitability are: 4. Monitoring, Evaluating, and Reporting results; and 2. Organizing learning activities. Overall, the indicator is appropriate to the greatest extent.

## DISCUSSION OF RESULTS

The finding of the study of components and indicators of standardized educational management Sub-district Non-Formal and Informal Education Center standards for excellence showed that the components and indicators consisted of 7 components: 1) Organizational leadership has 2 indicators 2) Strategic planning has 2 indicators 3) Learner and stakeholder Focus has 2 indicators 4) Knowledge measuring, analysis, and management has 2 indicators 5) Personnel Focus has 2 indicators 6) Process Management has 2 indicators and 7) Outcomes has 4 indicators. (Fatkhurohman, 2022; Kodsiri et.al., 2022)

The researcher has studied the relevant documents and research, synthesized the composition and indicators, and then examined them for appropriateness to confirm the composition and indicators of the synthetic educational management for excellence. corresponds to (Shafiee et al., 2021; Barari et al., 2022). Shokouhyar et al., 2020; Chen et al., 2023) claim that raising the quality of management is equivalent to international standards by focusing on government agencies to improve the organization thoroughly and continuously covering all 7 aspects. (Javed et al., 2022; Shneiderman, 2020), the category defines the quality criteria of public sector

management) consists of 7 categories as follows: Section 1 Organization Leadership, Section 2 Strategic Planning, Section 3 Prioritization of Service Recipients and Stakeholders, Section 4 Measurement, Analysis, and Management, Section 5 Human Resources Focus, Section 6 Process Management, Section 7 Performance Results. (Azhar, 2023) It is a preliminary conceptual framework and benchmarking method by studying the characteristics and practices of private educational institutions that are recognized for excellence. (Reponen et.al., 2021; Mahdi et.al., 2021) The results of the research showed that the management system that focuses on the excellence of private educational institutions consists of Main elements. There are nine main components of a management system that focus on excellence in private schools: 1) leadership of school administrators, 2) focus on students. 3) Strategic planning, 4) Organizational structure, 5) Resource focus, 6) Academic administration, 7) Financial management, 8) General administration, and 9) Information management and knowledge management, and it also on the consistency with the research of Fulston Schools (2019), it proposes a model for excellence for educational institutions. Student and stakeholder focus Strategic planning, support and education process planning, human resources, and performance outcomes.

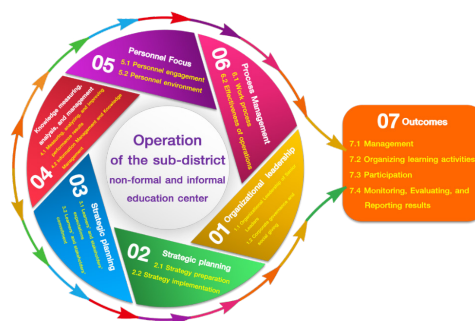


Fig. 1: New findings from research

From Figure 1, Educational management according to the Sub-District Non-Formal and Informal Education Center standards for excellence, refers to quality-oriented management throughout the organization that is continuously improved and developed. To enhance their ability to compete with other organizations and be able to exist according



to the ever-changing environment and/or factors by covering various elements, including Organizational Leadership and Strategic Planning, Learner and Stakeholder Focus, Measuring, Analyzing, and Managing Knowledge, Focusing on people, Process Management, and Outcomes details are as follows:

1. Organizational Leadership refers to the determination of values, directions, methods, internal and external factors of the organization, and current situations. Including bringing changes in the organizational management of the executives to lead the organization to efficient management, efficiency to excellence, and sustainability.
  - 1.1 Organizational Leadership of Senior Leaders refers to management methods used by executives to guide and create sustainability for the organization, including vision determination, values, and expectations, operations of the organization. It focuses on how senior leaders communicate with people, strengthen their leadership skills, participate in organizational learning, develop future leaders, and measure performance at the organizational level.
  - 1.2 Corporate governance and social responsibility give reference to how management demonstrates the ability to supervise and encourage legal and ethical behavior among its personnel. Including giving importance to the responsibility and safety of the community, with processes, indicators, and goals for personnel to follow.
2. Strategic planning refers to the process of studying the future in making strategies that lead to a plan to implement the objectives set. Including being able to adjust according to the current situation to measure the progress of the operation.
  - 2.1 Strategy preparation refers to a method for determining the process of developing an organization's strategy under the analysis of an uncertain environment with objectives, innovation, work systems, and core competencies, including surveying the needs of service users.
  - 2.2 Strategy implementation refers to the method of transferring the defined strategy into practice, formulating an action plan, action indicator,

resource management and portfolio, and future performance prediction, including tracking performance.

3. Learner and stakeholder Focus refers to the importance or needs of learners or stakeholders. Including building good relationships to satisfy those involved in the operation of educational institutions.
  - 3.1 Learners' and stakeholders' expectations refer to methods established to find information about target groups that are learners or stakeholders of the organization, such as public hearings, meeting needs, and expectations, including assessing satisfaction with the organization.
  - 3.2 Learners' and stakeholders' commitment refers to a method of building relationships, supporting, and giving importance to learners and stakeholders. It identifies methods of management by measuring satisfaction and engagement with learners and stakeholders.
4. Knowledge measuring, analysis, and management refer to measuring and analyzing information management, including technology in the operation or performance of educational institutions to lead to improvement and development of organizational management.
  - 4.1 Measuring, analyzing, and improving performance results of Sub-District Non-Formal and Informal Education center refers to the performance management method, performance of Sub-District Non-Formal and Informal Education, such as measurement, analysis, development, improvement, including innovation Subdistrict Non-Formal and Informal education center as a whole.
  - 4.2 Information Management and Knowledge Management refers to a method of collecting knowledge, knowledge transfer, access to information data, and information of Sub-District Non-Formal and Informal Education Center to be systematic and convenient, always ready to use.
5. Personnel Focus refers to managing and developing human resources of educational institutions, such as teachers, educational personnel, and school staff by continuously evaluating performance and setting up a system to suit the individual about career advancement, work motivation, and

organization engagement. Including creating a good working atmosphere for personnel.

- 5.1 Personnel engagement refers to methods relating to personnel management, motivation personnel development for career advancement, welfare, and facilities in various areas of operation, including engagement assessment for personnel in Sub-District Non-Formal and Informal Education Centre.
- 5.2 Personnel environment refers to any action aimed at building and maintaining the competence of personnel. As well as creating a working environment that results in outstanding performance and aiming to create a culture and employee commitment.
6. Process management refers to internal process management where organizations must find processes that create value for services. It is important and supports the most effective administration of educational institutions.
  - 6.1 Work process refers to how to manage work Management System Design Improving work to achieve goals efficiently.
  - 6.2 Effectiveness of operations refers to Management methods to achieve full performance of duties according to knowledge and ability to achieve goals. The objectives are set by making the most of the available resources and maximizing the benefits by applying various techniques to reduce procedures to facilitate operations, including safety and emergency management.
7. Outcomes refer to results from the implementation and management of education according to the standards It is effective and beneficial to the management of non-formal education and independent education at the community level. Management of venues, media, materials, equipment, and budgets, organizing learning activities, engaging with communities and network partners, as well as monitoring, evaluating, summarizing, and reporting the results of activities.
  - 7.1 Management refers to the work of 2 or more people who participate, and achieve common goals, which require people as key elements, use administrative resources as a fundamental

component, cooperate, and act rationally to achieve goals effectively.

- 7.2 Organizing learning activities refers to actions that will make the learner and instructors work together to change and develop according to the objectives of education.
- 7.3 Participation refers to Involving the public in the decision-making process and project implementation process and benefits from development projects, including efforts to evaluate them.
- 7.4 Monitoring, Evaluating, and Reporting results refer to the comparative process of Actual project results or outcomes and expected project outcomes defined in the Project Objectives to know whether the project has achieved the specified objectives or not.

In conclusion, the composition and indicators of standardized education management in the Sub-district Non-Formal and Informal Education Center for Excellence have 7 components and 16 indicators namely Organizational leadership has 2 indicators; Strategic Planning has 2 indicators; Learner and Stakeholder Focus has 2 indicators; knowledge measurement, analysis, and management have 2 indicators; personnel focus has 2 indicators; process management has 2 indicators; and results are four indicators, the results of which showed that the organizational leadership component has the most appropriate level. The components of measurement, analysis, and knowledge management have the least appropriate level, consistent with the studies of government agencies and the research studies of academics both domestically and internationally. The administrators can be applied to the development of the Sub-District Non-Formal and Informal Education Center for enhancing the ability of Sub-District Non-Formal Education to compete with other organizations and be able to exist according to the ever-changing environment and/or factors, continuous improvement, and development.

## RECOMMENDATION

### Implementation suggestions

Administrators of District Non-Formal Education and the head of Sub-District Non-Formal Education can

use components and indicators for educational management according to standards of the Sub-district Non-Formal and Informal Education Centre for Excellence as a guideline for the development of Sub-district Non-Formal and Informal Education Centre for excellence. To be able to compete with other organizations and be able to survive according to the environment and/or factors that change all the time.

The results from the study of the components and indicators for educational management according to standards of the Sub-district Non-Formal and Informal Education Centre for Excellence have set a framework for studying the current conditions. Desirable conditions and needs need educational management according to the Sub-district Non-Formal and Informal Education Centre for Excellence standards.

### Suggestions for further research

Emphasis should be placed on the study of measurement components and indicators. More analytics and knowledge management to search for additional indicators to enhance the effectiveness of educational management according to standards of the Sub-district Non-Formal and Informal Education Centre for Excellence.

### REFERENCES

1. Azhar, I. (2023). The model of quality management in strengthening Islamic higher education. *Madinah: Jurnal Studi Islam*, 10(1), 85-109.
2. Azimovna, F. M. (2020). Formation of spiritual and moral values of pupils in physical education lessons. *Asian Journal of Multidimensional Research (AJMR)*, 9(11), 99-103.
3. Barari, N., RezaeiZadeh, M., Khorasani, A., & Alami, F. (2022). Designing and validating educational standards for E-teaching in virtual learning environments (VLEs), based on revised Bloom's taxonomy. *Interactive Learning Environments*, 30(9), 1640-1652.
4. Chen, X., Chang-Richards, A., Ling, F. Y. Y., Yiu, T. W., Pelosi, A., & Yang, N. (2023). Developing a readiness model and a self-assessment tool for adopting digital technologies in construction organizations. *Building Research & Information*, 51(3), 241-256.
5. Elihami, E., & Ibrahim, I. (2019). Teaching variation in learning for the nonformal education department. *Jurnal Edukasi Nonformal*, 1(1), 29-40.
6. Fakhruddin, I. S. (2019). The impact of non-formal education in community development: a case study in Pati, Indonesia. *International Journal of Innovation, Creativity and Change*, 5(5), 339-352.
7. Fatkhurohman, I. (2022). Patterns of character education in Aisyiyah Kindergarten, Sidabowa, Banyumas Regency. *International Journal of Research in Business and Social Science (2147-4478)*, 11(10), 303-315.
8. Fulston Schools. (2019). Excellence model, accessed December 10, 2019, available from <http://www.fulstonschools.org.debt/prodev/leadership/model.shtml>
9. Hasanah, M., & Putra, M. (2021). Improvement of ecological intelligence through educational comics as learning resources. *Prosiding Seminar Nasional Lingkungan Lahan Basah*.
10. Huang, R., Tlili, A., Chang, T. W., Zhang, X., Nascimbeni, F., & Burgos, D. (2020). Disrupted classes, undisrupted learning during COVID-19 outbreak in China: application of open educational practices and resources. *Smart Learning Environments*, 7, 1-15.
11. Javed, A. R., Shahzad, F., Rehman, S., Zikria, Y. B., Razzak, I., Jalil, Z., & Xu, G. (2022). Future smart cities: Requirements, emerging technologies, applications, challenges, and future aspects. *Cities*, 129, 103794.
12. Kharazishvili, Y., Kwilinski, A., Grishnova, O., & Dzwigol, H. (2020). Social safety of society for developing countries to meet sustainable development standards: Indicators, level, strategic benchmarks (with calculations based on the case study of Ukraine). *Sustainability*, 12(21), 8953.
13. Kodsiri, C., Kaewsufong, S., Mangkhang, C., & Dibyamandala, J. (2022). A learning model based on the elderly philosophy for a happy life in Thai social context. *Technium Society of Science Journal*, 32, 192.
14. Kokkalia, G., Drigas, A. S., Economou, A., & Roussos, P. (2019). School readiness from kindergarten to primary school. *International Journal of Emerging Technology Learning*, 14(11), 4-18.
15. Mahdi, O. R., & Nassar, I. A. (2021). The business model of sustainable competitive advantage through strategic leadership capabilities and knowledge management processes to overcome covid-19 pandemic. *Sustainability*, 13(17), 9891.
16. Manurung, P., Karimaliana, K., Ansi, R. Y., Harahap, D. A., Ginting, D., & Subagiharti, H. (2021). The involvement of non-formal education in students' learning needs during the covid-19 epidemic. *International Journal for Educational and Vocational Studies*, 3(4), 287-292.
17. Markony, G. A. U. Z. (2020). Efforts towards education: Looking into non-government support for non-formal



- education in Bangladesh. *Building Sustainable Communities: Civil Society Response in South Asia*, 631-655.
18. Muhammad, A. S., & Abubakar, A. (2019, March). Development of early childhood education teachers in the teaching and learning process by inspectors in an attempt to improve teacher performance. *The 2nd International Conference on Research of Educational Administration and Management (ICREAM 2018)* (pp. 69-73). Atlantis Press.
  19. Niyamabha, A., Wichitpatcharaporn, W., & Khamkhueang, C. (2023). Management model for the development of quality schools in the Institute for the Promotion of Teaching Science and Technology (IPST) by creating a mentoring system and professional learning community. *Journal of Positive Psychology and Wellbeing*, 293-308.
  20. Reponen, E., Rundall, T. G., Shortell, S. M., Blodgett, J. C., Juarez, A., Jokela, R., ... & Torkki, P. (2021). Benchmarking outcomes on multiple contextual levels in lean healthcare: a systematic review, development of a conceptual framework, and a research agenda. *BMC Health Services Research*, 21(1), 1-18.
  21. Rojchanaprasart, N., Anantasuk, R., Chouyruang, D., & Tongnunui, P. (2022). Development of a coastal resources restoration plan for the Koh Sukorn area, Trang Province through community participation. *Journal of Community Development Research (Humanities and Social Sciences)*, 15(2), 40-57.
  22. Rossi, E., Bertassini, A. C., dos Santos Ferreira, C., do Amaral, W. A. N., & Ometto, A. R. (2020). Circular economy indicators for organizations considering sustainability and business models: Plastic, textile and electro-electronic cases. *Journal of Cleaner Production*, 247, 119137.
  23. Shafiee, S., Rajabzadeh Ghatari, A., Hasanzadeh, A., & Jahanyan, S. (2021). Smart tourism destinations: a systematic review. *Tourism Review*, 76(3), 505-528.
  24. Shneiderman, B. (2020). Bridging the gap between ethics and practice: guidelines for reliable, safe, and trustworthy human-centered AI systems. *ACM Transactions on Interactive Intelligent Systems (TiiS)*, 10(4), 1-31.
  25. Shokouhyar, S., Seddigh, M. R., & Panahifar, F. (2020). Impact of big data analytics capabilities on supply chain sustainability: A case study of Iran. *World Journal of Science, Technology and Sustainable Development*, 17(1), 33-57.
  26. Varghese, N. V., Mangalagiri, A., & Mathew, A. (Eds.). (2023). *Quality and inclusion in education: The persisting challenges*. Taylor & Francis.