

Model for Driving Strategy of Autonomous Universities Towards Sustainable Development Goals

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Abstract

The research on strategic driving models of autonomous universities towards sustainable development goals is a qualitative study conducted through in-depth interviews with 27 university executives, stakeholders, and relevant individuals from Chulalongkorn University, Mahidol University, and Chiang Mai University. According to the Times Higher Education Impact Rankings, these universities rank among the top 100 in the world as leading global universities that create a high societal impact (SDGs Impact). Additionally, three experts were interviewed to validate an appropriate model based on the strategic conceptual frameworks of Baker, B.S.H. (1994), David, F. R. (2009), and Hill and Hupe (2014). The study examined six strategies for driving the strategic direction of autonomous universities toward sustainable development goals. The findings indicate that the strategic driving model for autonomous universities towards sustainable development goals consists of four key missions: (1) graduate production, (2) research and innovation, (3) academic services to society, and (4) the preservation of arts and culture (Ministry of Higher Education, Science, Research, and Innovation, 2022). Additionally, the study identifies seven strategic implementation processes: (1) leadership selection strategy, (2) operational planning strategy, (3) strategy translation into actionable plans and projects, (4) resource allocation strategy, (5) policy implementation readiness strategy, (6) strategic communication and public relations, and (7) motivation and organizational culture cultivation to embed sustainable development values among students, faculty, and the public. This research provides a framework that university administrators can adopt to effectively drive their strategic initiatives, ensuring balanced and sustainable development across social, economic, and environmental dimensions at both national and global levels.

Keywords: Strategic Implementation, Autonomous Universities, Sustainable Development Goals (SDGs)

Introduction

Over the past century, as the world has entered the digital age, humanity has harnessed its potential to drive development and progress across all dimensions. However, this advancement has triggered a wide-ranging chain reaction, bringing both positive and negative impacts directly and indirectly. While industrial development and economic growth have benefited the world, many nations have faced significant challenges, particularly environmental degradation and resource depletion. As a result, achieving a balance for sustainable development has become necessary. The concept of sustainable development began to gain prominence in global development discourse in 1972 when the United Nations (UN) held the Human Environment Conference in Stockholm, Sweden. This event significantly raised international awareness of environmental issues. In 1973, Ernest F. Schumacher published *Small is Beautiful* (Schumacher, 1973), expressing concerns about resource depletion and environmental destruction. He proposed urgent solutions, including using appropriate technologies that align with population needs and integrating broader considerations into national development policies beyond economic factors alone.

In response to environmental degradation and resource loss, the United Nations has continued to convene summits addressing these challenges. On September 25, 2015, the UN General Assembly held the United Nations Conference on Environment and Development (UNCED), also known as the Earth Summit Rio+20, in Rio de Janeiro, Brazil. This event marked the 20th anniversary of the original Earth Summit, leading to the adoption of the 2030 Agenda for Sustainable Development by 193 member states, including Thailand. This agenda sets forth a global development framework to achieve sustainable economic, social, and environmental progress without leaving anyone behind by 2030. The Sustainable Development Goals (SDGs) were established as part of this framework to guide collective action among nations.

The Thai government has aligned its policies with the global SDG agenda at the national level, striving to implement sustainable and balanced economic, social, and environmental strategies by 2030. The Ministry of Higher Education, Science, Research, and Innovation (MHESI) has integrated the UN's sustainable development policies into its strategic framework for higher education, science, research, and innovation 2023- 2027. This framework, which the Thai Cabinet approved on December 13, 2022, aligns with the 20-Year National Strategy and the 12th and 13th National Economic and Social Development Plans.

During the Global University Leaders Meeting held by the Sustainable Development Solutions Network (SDSN) on July 9–10, 2020, the UN Secretary-General and Deputy Secretary-General emphasized that universities play a crucial role in driving society toward sustainability. Universities serve as knowledge hubs and thought leaders, contributing to sustainable national and global development through education, research, and interdisciplinary integration (McGregor, S. L.T., 2004).

Thai universities have actively pursued the SDGs, as evidenced by their consistent ranking among the world's top 100 universities in the Times Higher Education Impact Rankings from 2021 to 2024. These rankings recognize universities that have a significant positive impact on society through their SDG-related initiatives. Beyond their traditional role in education, universities are expanding their responsibilities to include research, innovation, and active participation in societal development for a sustainable future (Bejinaru R., 2017).

Given the significance of these challenges, this study aims to explore the strategic driving model of autonomous universities toward sustainable development goals. The findings will provide a concrete framework for universities to implement their strategic initiatives in alignment with the SDGs effectively. The study will also contribute to national and global sustainability efforts, reinforcing the role of universities as intellectual centers that instill environmental consciousness, support vulnerable populations, reduce inequality, and foster collaboration among university administrators, faculty, students, communities, government agencies, and the private sector. By holistically addressing economic, social, and environmental dimensions, universities can play a vital role in achieving long-term sustainability at both national and global levels.

Literature Review

Public Policy and Strategic Implementation

The exploration of public policy implementation began in the 1970s, initially garnering significant attention from political scientists and public administration scholars (Nimphnich, J., 2009, pp. 137-138). Hargreaves (1975) authored the seminal work "The Missing Link: The Study of the Implementation of Social Policy," which introduced a conceptual framework for policy implementation. This led to a further academic inquiry from scholars such as Walter Williams, Van Horn, Van Meter, Kaufman, Bailey, and Mocher, who were deeply engaged in studying public policy implementation.

The study of policy implementation examines the capacity to mobilize institutional mechanisms to achieve the predefined objectives of public policies (Pressman & Wildavsky, 1979). It encompasses actions by individuals or groups within governmental or non-governmental sectors to fulfill the set policy goals (Van Meter & Van Horn, 1975). This scholarly pursuit assesses the organizational capacity to aggregate human and material resources and motivate personnel to achieve organizational objectives (Williams, 1975). It also emphasizes an organization's capacity to utilize administrative resources to attain strategic goals (Kerr, 1996), translating policies into tangible outcomes through well-structured programs or projects (Rondinelli et al., 1983).

Policy implementation, or policy administration, involves leveraging administrative mechanisms to ensure that the responsible agencies actively operationalize public policies to meet the set goals. Therefore, policy implementation seeks to identify methods and approaches that enhance policies, programs, and projects to achieve efficacy. Theoretical models of policy implementation are categorized into three primary streams:

1. Top-down Theories of Implementation This theory emphasizes the importance of policymakers' ability to clearly define the policy's objectives and their role in supervising, monitoring, and controlling the policy implementation process. Key scholars within this group include Pressman and Wildavsky (1973), Van Meter and Van Horn (1975), Bardach (1977), and Sabatier and Mazmanian (1979, 1980, 1983), among others.

2. Bottom-up Theories of Implementation This theory emphasizes the role of implementers at the grassroots level as service providers and views policy implementation as a negotiation process within policy implementers' networks. The use of discretion by lower-level service providers is considered a more critical issue than top-level decision-making. This theory emerged in the late 1970s and 1980s. Key scholars associated with this approach include Lipsky (1971), Elmore (1978), and Hjern (1982), among others.

3. Hybrid Theories of Implementation This integrative approach synthesizes elements from both top-down and bottom-up frameworks, addressing the limitations of each. It recognizes the necessity of considering policymakers, local-level officials, the private sector, and target groups. This integrative approach has led to a proliferation of varied policy implementation strategies. Significant scholars in this category include Scharpf (1978), Windhoff-Héritier (1980), Ripley & Franklin (1982), Winter (1990), and Woradech Jantarasorn (2008).

In the research study "Models for Driving the Strategic Direction of Autonomous Universities Towards Sustainable Development Goals," the researcher focused on the strategy implementation phase. The study examined the strategic management process, which consists of the following steps:

Strategic Management Process

Strategic Management is a process that enables organizations to effectively plan, control, and refine their strategies. Various scholars have proposed different models of the strategic management process. However, several scholars share a common perspective and have summarized the strategic management process into five key stages:

(1) Vision Formulation – According to Thompson and Strickland (1999) and Robbins and Coulter (2007: 91-94), this stage involves defining the organization's strategic vision, mission, objectives, and overall strategy.

(2) Environmental Analysis - Wheelen and Hunger (2004) and Robbins and Coulter (2007: 91-94) describe this stage as the process of examining and analyzing both internal and external environments. This involves assessing various factors that influence the organization's operations, both within and outside.

(3) Strategy Formulation - Wheelen and Hunger (2004: 3), Thompson and Strickland (1999), and Robbins and Coulter (2007: 91-94) describe this stage as the process of defining and formulating strategies. It involves setting strategic direction, establishing objectives, and determining the methods for achieving organizational goals.

(4) Strategy Implementation - Wheelen and Hunger (2004) and Thompson and Strickland (1999) define this stage as the execution of the chosen strategy. It involves putting strategic plans into action by organizing activities, allocating resources, and ensuring that initiatives align with the objectives to achieve organizational goals.

(5) Evaluation and Strategic Control - Wheelen and Hunger (2004), Thompson and Strickland (1999), and Robbins and Coulter (2007: 91-94) describe this stage as the process of assessing outcomes, monitoring performance, and making necessary adjustments. It involves evaluating the effectiveness of strategy implementation, measuring key performance indicators, and refining strategies to ensure alignment with organizational objectives.

The research on driving the strategic direction of autonomous universities toward sustainable development employs the theoretical framework of David, F. R. (2012) to examine strategic implementation approaches. This framework comprises three primary phases: (1) Strategy Formulation, (2) Strategy Implementation, and (3) Strategy Evaluation. However, this study specifically focuses on the implementation phase, which involves translating public policy—an issue of global significance—into concrete actions that contribute to sustainable economic, social, and environmental development.

David, F. R. (2009: 15) delineates the strategic management process into three core components: **Strategy Formulation**, consisting of five key steps: (1) Developing a mission statement (2) Assessing the internal environment (3) Assessing the external environment (4) Establishing long-term objectives (5) Generating and selecting strategies **Strategy Implementation**, which involves two critical steps: (1) Setting annual policies and objectives. (2) Allocating resources **Strategy Evaluation**, which includes a single step: (1) Measuring and assessing performance outcomes

This approach aligns with Baker, B.S.H. (1994), who classifies the policy implementation process into four stages following policy decision-making: **(1) Operational Programming** – Formulating action plans **(2) Institutional Arrangements** – Preparing the implementing institutions **(3) Organization and Administration** – Structuring and managing implementation to achieve policy objectives **(4) Budgeting and Planning** – Allocating financial resources and planning for execution.

Furthermore, Hill and Hupe (2014) propose that policy implementation resembles a management process, incorporating the following elements: (1) Establishing clear operational regulations, (2) Defining missions and performance capacities explicitly, (3) Allocating adequate resources, (4) Enhancing internal motivation (5) Promoting adherence to prescribed standards. (6) Streamlining operational processes (7) Demonstrating effective leadership (8) Integrating training and capacity building with practical implementation

In summary, the core strategic Management process comprises three main stages: strategy formulation, implementation, and evaluation. This research specifically focuses on the strategy implementation phase, drawing upon the strategic management theories of Baker, B.S.H. (1994), David, F. R. (2009), and Hill and Hupe (2014) to develop and apply a conceptual research framework. The strategic implementation process in this study is categorized into six key components:

Acquisition of Strategic Leaders and Operational Planning – Identifying and appointing key executives responsible for strategy execution and formulating actionable operational plans.

1. Translating Strategy into Actionable Programs or Projects – Converting formulated strategies into concrete, implementable initiatives.

2. Resource Allocation – Ensuring the appropriate distribution and utilization of resources to support strategy execution.

3. Institutional Preparation for Policy Implementation – Structuring and equipping relevant institutions for effective policy execution.

4. Strategic Communication, Public Relations, and Stakeholder Engagement – Effectively disseminating strategic information and fostering stakeholder participation.

5. Motivating Personnel and Embedding Organizational Culture and Values – Encouraging employee commitment and fostering a corporate culture aligned with strategic objectives.

Autonomous Universities

Autonomous universities, also known as state-supervised universities, are higher education institutions governed by the state but operating with administrative independence from the bureaucratic system. They are often called "non-civil service universities" and receive direct annual funding from the government to support their operational objectives. The Thai Encyclopedia for Youth, initiated by His Majesty King Rama IX (Foundation for the Thai Encyclopedia for Youth, n.d.), defines autonomous universities as state-funded institutions that maintain managerial autonomy while still receiving government subsidies. This definition aligns with Nesheim (2000), who describes university autonomy as the institution's capacity to serve as a hub for scholars, intellectuals, and knowledge seekers, exercising academic freedom under peer oversight. Autonomous universities can select students, mediate external influences, and uphold internal academic authority. This concept is often called academic autonomy, which necessitates responsibility and accountability. The autonomy granted to these universities enhances their flexibility and agility, allowing them to shape their future development with government support and self-generated financial resources.

University Administration Based on Missions

University administration has four primary missions: 1. Graduate Production 2. Research 3. Academic Services to Society 4. Preservation of Arts and Culture. These missions align with the Ministry of Higher Education, Science, Research, and Innovation (2020). They are governed by Sections 9-12 of the Higher Education Act, B.E. 2562 (2019) (Royal Gazette, 2019, pp. 57-60), which outline six key principles: **Social Responsibility** – Universities must operate for the benefit of communities, society, and the nation.

1. Academic Freedom – Freedom in education, research, teaching, and academic expression must be upheld, provided it aligns with legal and ethical standards.

2. Autonomy in Governance – Universities manage their curricula, research, personnel, finances, and assets while implementing measures to prevent corruption and misconduct.

3. Equity – Education must be accessible and fair to all learners, avoiding unjust discrimination.

4. Good Governance – Universities must establish adequate internal controls and auditing systems to prevent conflicts of interest and corruption.

5. Sufficiency Economy Philosophy – Inspired by His Majesty King Bhumibol Adulyadej the Great, this principle guides sustainable economic and social development. It consists of three pillars (moderation, reasonableness, and self-immunity) and two conditions (knowledge and ethics) to ensure resilience amid globalization and change.



Figure 1: The Philosophy of Sufficiency Economy

Source: His Majesty King Bhumibol Adulyadej the Great

Reference: Professor Emeritus Dr. Kraissid Tontisirin, “The Theory of Sufficiency Economy,” Document for the Academic Forum on Research for Sustainable Development Goals (SDGs), April 26, 2022.

In driving the strategy of autonomous universities toward sustainable development, the researcher selected three autonomous universities recognized as world-leading institutions with a high impact on global society (SDGs Impact). These universities are (1) Chulalongkorn University, (2) Mahidol University, and (3) Chiang Mai University. These institutions have shown continuous development, mainly through their participation in the SDGs Impact initiative, which allowed them to rank within the top 100 universities worldwide in 2023-2024. They are also part of the Reinventing University project's top global and frontier research group. All three universities have strategic issues that align with the mission of autonomous universities as outlined in the Higher Education Act, which encompasses four key areas: (1) graduate production, (2) research, (3) academic service to society, and (4) the preservation of arts, Culture, and the environment in a balanced and sustainable manner.

Theories and Concepts of Sustainable Development

The concept of sustainable development goals (SDGs) originates from the United Nations Conference on Sustainable Development (UNCSD), held in June 2012 in Rio de Janeiro, also known as Rio+20. The conference aimed for three objectives: (1) to enable all countries to discuss and agree on pushing for the serious implementation of sustainable development, (2) to establish the SDGs that all countries could work toward, and (3) to find solutions to the challenges and obstacles to sustainable development. The outcome document of the conference, titled “The Future We Want,” was adopted by the United Nations General Assembly in resolution A/RES/66/288. The document recognized that poverty remains a major global issue, and in addressing poverty, the approach must consider three key

dimensions: economic, social, and environmental sustainability.

During the United Nations Conference on Sustainable Development (Rio+20) in 2012, an Open Working Group (OWG) was established to propose Sustainable Development Goals (SDGs) to the United Nations General Assembly by 2014. The working group consisted of 70 UN member countries divided into 30 working groups. Thailand was involved in one of these working groups, collaborating with Bhutan and Vietnam to push to realize these goals actively. In parallel with this process, the UN Secretary-General was tasked with reviewing the progress and strategies for continuing the work initiated by the Millennium Development Goals (MDGs), which consisted of 8 key goals, as follows:

1. Goal 1: Eradicate extreme poverty and hunger
2. Goal 2: Achieve universal primary education
3. Goal 3: Promote gender equality and empower women
4. Goal 4: Reduce child mortality rates
5. Goal 5: Improve maternal health
6. Goal 6: Combat HIV/AIDS, malaria, and other diseases
7. Goal 7: Ensure environmental sustainability
8. Goal 8: Develop a global partnership for development

This process concluded in 2015, under which the UN Secretary-General established several task forces, including the UN System Task Team (UNTT), consisting of UN agencies and other international organizations, to provide valuable data for post-MDG development planning. Furthermore, the UN Secretary-General organized regional and thematic consultations to gather diverse perspectives from all sectors and formulate strategies for sustainable development post- 2015. These discussions aimed to ensure a comprehensive approach to development, integrating input from various stakeholders and shaping a unified course of action for the future.



Figure 2: From 8 MDGs to 17 SDGs

Source: SDG Move moving towards sustainable future (<https://www.sdgmove.com/2017/08/13/mdgstosdgs/>)

On July 14, 2014, the Open Working Group proposed 17 Sustainable Development Goals (SDGs) and 169 targets to the United Nations General Assembly. Subsequently, on December 4, 2014, the United Nations Secretary-General presented a report supporting this proposal. On September 25, 2015, the United Nations Conference on Environment and Development (UNCED), or Earth Summit Rio+20, was held in Rio de Janeiro, Brazil, to celebrate the 20th anniversary of the conference at the United Nations Headquarters.

Thailand and the 193 member countries of the United Nations collectively signed the "2030 Agenda for Sustainable Development," which serves as the global framework for achieving sustainable economic, social, and environmental development, leaving no one behind by 2030. This agenda includes the Sustainable Development Goals (SDGs) as a guideline for countries to work together toward these objectives.

Table 1 United Nations Sustainable Development Goal

Goal 1: No Poverty	End poverty in all its forms everywhere	
Goal 2: Zero Hunger	End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.	
Goal 3: Good Health and Well-Being	healthy lives and promote well-being for all at all ages	
Goal 4: Quality Education	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.	
Goal 5: Gender Equality	Achieve gender equality and empower all women and girls. (Achieve gender equality and empower all women and girls)	
Goal 6: Clean Water and Sanitation	Ensure availability and sustainable management of water and sanitation for all.	
Goal 7: Affordable and Clean Energy	Ensure access to affordable, modern energy for all. Ensure access to affordable, reliable, sustainable, and modern energy for all.	
Goal 8: Decent Work and Economic Growth	Promote sustained, inclusive, sustainable economic growth, full and productive employment, and decent work.	
Goal 9: Industry, Innovation, and Infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.	
Goal 10: Reduced Inequality	Reduce inequality within and among countries.	
Goal 11: Sustainable Cities and Communities	Make cities and human settlements inclusive, safe, resilient, and sustainable.	
Goal 12: Responsible Consumption and Production	Ensure sustainable production and consumption patterns (Ensure sustainable consumption and production patterns)	
Goal 13: Climate Action	Urgent action to combat climate change and its impacts (Take urgent action to combat climate change and its impacts)	
Goal 14: Life Below Water	Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.	

Goal 15 Life on Land	Protect, restore, and promote the sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss.	
Goal 16: Peace, Justice, and Strong Institutions	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels.	
Goal 17: Partnerships for the Goals	Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.	

Source: SDG Move (moving towards sustainable future), www.sdgmove.com

Sustainable development can be summarized as a development approach that meets the needs of the present generation without compromising the ability of future generations to meet their own needs (Brundtland, G., 1987). Achieving sustainable development involves three key components: economic growth, social inclusion, and environmental protection.

Methodology

Given the economic, social, and environmental challenges mentioned, the researcher is interested in studying the model of driving state university strategies toward the Sustainable Development Goals (SDGs) as part of addressing global issues. The study uses a qualitative research method (Qualitative Method) in the form of a case study (Case Study) within the field of social sciences. The aim is to explore the process, problems, obstacles, and success factors and identify the appropriate model for driving the strategies of state universities towards the SDGs. The study is a specific case, categorized as an instrumental case study, representing other cases in search of in-depth information that allows the researcher to understand questions, problems, and theories to conclude (Lawrence, B. L., 2001: 229). The research methods are divided into two parts based on the objectives of the study as follows:

Study of the Process and Success Conditions of Driving State University Strategies towards the SDGs: This part involves studying three state universities that ranked 1-3 in Thailand according to The Times Higher Education Impact Ranking (Impact Ranking) for being world- leading universities with significant impact on global society (SDGs Impact). The study covers the past three years (2022-2024), namely: (1) Chulalongkorn University, (2) Mahidol University, and (3) Chiang Mai University. The data is collected through in-depth interviews with three target groups:

- Group 1: Policy makers, those responsible for driving and overseeing the implementation of strategic management processes related to SDGs, such as university council presidents or members, and university rectors or vice-rectors involved in SDG strategy implementation. A total of 9 individuals.
- Group 2: Those involved in driving strategies at the operational level, such as deans, directors, deputy deans, deputy directors, or those responsible for compiling SDG data. A total of 9 individuals.
- Group 3: Stakeholders such as faculty members and students drive the strategy. A total of 9 individuals. This results in a total of 27 participants.

Developing a Model for Driving University Strategies Towards SDGs: In this section, the researcher synthesizes a model and seeks feedback from experts with experience driving the SDGs. The experts will provide insights on the appropriate model for advancing the strategies of state universities toward achieving sustainable development goals. This section employs a purposive sampling method, selecting five experts for their expertise in this area.

Results

The research titled "*Model for Driving the Strategy of Autonomous Universities towards Sustainable Development Goals*" involved interviews with executives, stakeholders, and individuals engaged in driving the strategies of state universities ranked 1-3 in Thailand, according to the Times Higher Education (THE) ranking. This ranking evaluates the success of higher education institutions in implementing the United Nations' Sustainable Development Goals (SDGs), including all 17 goals, as measured by The Times Higher Education Impact Ranking (Impact Ranking) from 2019-2024. The selected universities for this study, ranked in the top three, are: 1. Chulalongkorn University 2. Mahidol University 3. Chiang Mai University.

The criterion for selecting these universities was their consistent development in the SDGs Impact and their ability to maintain a position in the top 100 global rankings, as reflected in the 2023-2024 rankings. The universities also fall into the top tier for Global and Frontier Research under the Reinventing University program while also being state universities. The ranking results of these institutions in the THE rankings for Thailand are displayed in Table 2.

Table 2: Comparison of The Times Higher Education Impact Ranking (Impact Ranking) of Thai Universities ranked 1- 10 from 2019-2024.

university	2019	2020	2021	2022	2023	2024
1. Chulalongkorn University		101-200	23	16	17	43
2. Mahidol University		201-300	101-200	101-200	38	19
3. Chiang Mai University		301-400	101-200	70	74	75
4. Khon Kaen University	101-200	101-200	201-300	101-200	97	101-200
5. Kasetsart University			301-400	101-200	101-200	101-200
6. King Mongkut's University of Technology Thonburi		101-200	54	201-300	101-200	101-200
7. Thammasat University	300+	401-600	601-800	101-200	101-200	81
8. Asian Institute of Technology (AIT)		301-400	101-200	101-200	201-300	101-200
9. University of Phayao		401-600	401-600	301-400	301-400	401-600
10. King Mongkut's Institute of Technology Ladkrabang	201-300	301-400	301-400	401-600	401-600	601-800

Source: The researcher compiled the data from The Times Higher Education: www.timeshighereducation.com/impactranking.

The results of the in-depth interviews with individuals involved in policy formulation, advocacy, and oversight at various levels according to the Strategic Management Process for implementing strategies (Strategy Implementation) were summarized. These individuals included university board chairpersons or members of the university council, rectors or vice-rectors involved in driving the strategic direction of sustainable development goals (SDGs),

deans or directors, vice-deans or deputy directors, and staff responsible for compiling SDGs data, as well as stakeholders including faculty members and students. The summary of the interview findings and recommendations is as follows:

Based on the in-depth interviews conducted with university executives, relevant stakeholders, and key participants involved in driving the strategic direction of three autonomous universities - Chulalongkorn University, Mahidol University, and Chiang Mai University - the findings indicate that these institutions have formulated operational plans in alignment with their four core missions: 1. Graduate production 2. Research 3. Academic services for society 4. Cultural preservation and environmental sustainability. Each of these missions has been strategically integrated with policies to achieve the **Sustainable Development Goals (SDGs)** to ensure the practical and tangible implementation of the university's strategic direction. The following excerpt from the interviews encapsulates this approach:

1. Graduate Production

"The mission of producing graduates includes instilling the philosophy of sustainability in the mindset of staff, faculty, and students. Everyone must have a concept of sustainable development within themselves so that graduates, faculty, and staff become agents of change, contributing to society as change agents for sustainable development. In every curriculum, the goals and principles of sustainable development goals will be integrated." (University B Administrator, Interview, June 19, 2024)

2. Research

"University administrators encourage and support faculty and researchers to engage in more socially relevant work, funding research projects that benefit communities, society, and the nation." (University C Administrator, Interview, June 13, 2024)

3. Academic Services for Society

"Academic services for society must ensure true community involvement. Faculty and students need to learn and engage with communities on the ground, addressing real situations and challenges." (University A Administrator, Interview, July 1, 2024)

4. Cultural Preservation

"Universities must assist communities by learning their cultural heritage, fostering pride in existing cultures, and creating new cultures. This includes promoting Sustainable Development Goals in society and communities, aiming for sustainable development for society, communities, and the nation, which can be carried forward to future generations. This ensures true sustainability in all 17 goals." (University B Administrator, Interview, June 19, 2024)

The interviews show that the three autonomous universities prioritize the Sustainable Development Goals (SDGs) by integrating education, research, academic services, and cultural preservation within all their core missions. This integration ensures a balanced and sustainable development of the economic, social, and environmental dimensions. To successfully achieve their missions, these universities require a strategic implementation process. In this study, the researcher applied and adapted strategic management theories from Baker, B.S.H. (1994), David, F. R., (2009), and Hill and Hupe (2014) to develop a research

framework. The strategy implementation process was categorized into six key stages: 1. Selection of strategic executives and development of operational plans 2. Transformation of defined strategies into actionable programs and projects 3. Efficient allocation of resources 4. Preparation of organizational units for policy implementation 5. Strategic communication, public relations, and stakeholder engagement 6. Motivating personnel and instilling organizational values and culture following the interview excerpt encapsulates these strategic processes:

1. Strategy for Implementation Regarding the Selection of Executives

Interviews reveal that all three autonomous universities prioritize Sustainable Development Goals (SDGs) by integrating education, research, innovation, academic services, and cultural preservation with sustainability objectives. This holistic approach ensures a balanced and sustainable economic, social, and environmental development progression. The success of these universities' missions relies significantly on selecting their executive leadership, which plays a crucial role in driving sustainability initiatives. This importance is reflected in the following statement:

"...In selection and recruiting the university's executive team, the president places great emphasis on the SDGs. Executives responsible for overseeing sustainability efforts must possess a vision for fostering sustainability within the university, society, and the nation. Furthermore, in the executive selection process, the president ensures an appropriate gender balance in leadership positions while considering diversity across different age groups to ensure a comprehensive and inclusive approach to governance..." (University A Executive, Interview, July 1, 2024)

The selection of executives in autonomous universities underscores the importance of leadership vision, particularly in alignment with Sustainable Development Goals (SDGs). The recruitment process for university executives is designed to reflect these principles, particularly SDG 5: Gender Equality, which aims to achieve gender equality and empower all women and girls. Beyond leadership selection, the formulation of university operational plans is a critical aspect that the three autonomous universities emphasize, as highlighted in the following interview excerpt:

"...The selection of university executives follows a structured process that ensures the appointment of deans with a clear vision and objectives aligned with the university's strategic plan and goals. Newly appointed deans are required to develop strategic plans that explicitly incorporate the principles and objectives of sustainable development..." (University C Executive, Interview, June 13, 2024)

This approach ensures that both leadership selection and institutional planning contribute to the overarching goal of sustainable development, reinforcing autonomous universities' commitment to fostering long-term societal, economic, and environmental progress.

2. Strategy for Implementation: Converting Defined Strategies into Action Plans/Projects

Once executives have been appointed to drive university policies, they plan and translate established strategies into action plans and projects to ensure alignment with the university's vision and mission. The implementation of operational plans to advance sustainable development goals (SDGs) follows a hybrid approach that integrates both top-down and bottom-up implementation theories. Senior executives initiate policies and strategic directions at the top-down level, ensuring alignment with institutional objectives. Simultaneously, a bottom-up approach is employed, incorporating insights and proposals from faculty, students, and the community. This blended hybrid implementation model ensures that operational plans are strategically aligned and responsive to the needs of university stakeholders. The significance of this approach is reflected in the following interview excerpt:

"...The university's vision originates from its executives (Top-down), while projects benefiting society, communities, and the environment stem from faculty and students (Bottom-up). Each department proposes initiatives to the university, ensuring that all projects align with sustainable development goals, effectively merging both policy implementation approaches..." (University A Staff, Interview, July 1, 2024)

By combining these implementation models, autonomous universities bridge institutional strategy with grassroots participation, fostering a holistic and sustainable approach to university development.

3. Strategic Implementation: Resource Allocation

Autonomous universities are higher education institutions that operate independently from the bureaucratic system while still receiving block grants from the government annually. These grants support the university's essential operations by its institutional objectives. Additionally, universities generate revenue through student tuition fees, contract research, and academic service initiatives. To effectively drive sustainable development goals (SDGs), it is crucial to translate strategic plans into actionable programs and projects requiring sufficient budget allocations. Therefore, resource distribution among departments is key to ensuring the successful implementation of SDG-related initiatives. The importance of this process is reflected in the following interview excerpt:

"...We would like to implement all initiatives, but resources are limited, and we cannot do everything to the fullest extent. Prioritization is necessary. The central administration allocates resources to projects that align with strategic priorities, particularly those contributing to sustainable development goals. Additionally, successful projects that achieve university targets are recognized and rewarded..." (University A Executive, Interview, July 1, 2024)

By aligning resource allocation with strategic priorities, universities can maximize impact while ensuring sustainable and efficient use of financial and human resources.

4. Strategic Implementation: Establishing Units for Policy Execution

The structure and characteristics of implementing units play a crucial role in determining the success or failure of policy execution. Autonomous universities have established dedicated units to drive the implementation of Sustainable Development Goal (SDG) initiatives, ensuring alignment with the institution's vision and mission. This structured approach facilitates the effective translation of policies into actionable programs. The significance of these implementation units is highlighted in the following interview excerpt:

"...The university has established an SDG implementation unit to serve as a bridge between university executives and operational departments, ensuring the successful execution of sustainable development initiatives..." (University C Executive, Interview, June 13, 2024)

By integrating strategic leadership with operational execution, these units help universities streamline efforts, enhance coordination, and effectively achieve long-term sustainability objectives.

5. Strategic Implementation: Communicating the Strategy

The successful advancement of Sustainable Development Goal (SDG) initiatives relies on effective communication, public relations, and active engagement with all stakeholders. Collaborative efforts are essential to achieving all 17 goals and 169 targets. Therefore, universities must prioritize strategic communication, ensuring that their SDG policies are well understood and supported by all academic community members. Beyond communication, role models among faculty members and university personnel play a crucial role in fostering sustainable behavioral change among students. Educators can instill a deep-rooted understanding of sustainability principles by setting practical examples. The importance of clear communication and experiential learning is emphasized in the following interview excerpt:

"...While students are aware of the university's SDG policies, they often struggle to contribute to sustainability effectively. Having strong role models to drive these initiatives and incorporating SDGs into the curriculum—allowing students to learn and engage in real-world applications—will foster sustainability within the institution, the nation, and the world..." (Stakeholder B, Interview, June 10, 2024)

By integrating communication strategies with active participation and curriculum design, universities can enhance awareness, engagement, and long-term impact in achieving sustainable development.

6. Strategic Implementation: Motivation and Cultivating Organizational Culture

In addition to informing administrators, staff, students, and surrounding communities about the Sustainable Development Goals (SDGs), creating motivation and instilling organizational values and culture are essential for achieving long-term sustainability. Universities under the governance of the state recognize the importance of fostering a culture that aligns with sustainability principles to ensure the continuity of these goals. The following interview excerpt highlights this approach:

"...After disseminating information to all departments about the need to drive the SDGs, creating motivation among staff and instilling organizational values into the hearts of staff, students, and the surrounding community is key to making sustainable development truly sustainable..." (University Administrator A, Interview, July 1, 2024)

From interviews with university administrators and stakeholders, as well as a review of literature and data analysis, it is clear that motivation and cultural transformation are central to driving the SDG implementation process. This is supported by the strategic management theories of Baker, B. S. H. (1994), David, F. R. (2009), and Hill & Hupe (2014), which offer a framework for the effective integration of sustainability values into the institutional culture. As illustrated in Table 3, these insights reflect theoretical approaches to the strategic implementation of SDGs within universities.

Table 3: Analysis of Theoretical Concepts and Strategic Implementation Framework of State Universities Toward Sustainable Development Goals

Study results	theory	Analysis
All three state universities prioritize the Sustainable Development Goals (SDGs), which are incorporated into their vision and mission statements. The universities have a process for recruiting and selecting leadership that will help drive the achievement of the SDGs. They also have policies for creating action plans and projects to implement the university's strategies. Additionally, the universities have established departments to drive the SDGs and allocate necessary resources, including financial and human resources, to support the implementation of these policies. Furthermore, universities must engage in communication efforts and instill organizational cultural values to effectively drive these policies, ensuring their sustainability for the economy, society, and the environment.	The strategic implementation of state universities towards the Sustainable Development Goals (SDGs) has utilized the strategic management theories of Baker, B.S.H. (1994), Fred R. David (2009), and Hill and Hupe (2014). These theories were studied and applied to analyze data and interviews.	The analysis of data obtained from interviews with university executives and stakeholders reveals that the findings align with the concepts and theories of Baker, B.S.H. (1994), Fred R. David (2009), and Hill and Hupe (2014). The researcher summarized the process of driving strategies into seven key processes as follows: (1) the mission of state universities, (2) the recruitment of executives, strategies, and action plans, (3) transforming the defined strategies into work plans/projects, (4) allocating resources appropriately, (5) preparing units to implement policies, (6) strategic communication, and (7) motivating personnel.

From the table above, it can be observed that the study results are consistent with the strategic management theories of Baker, B.S.H. (1994), David, F. R. (2009), and Hill and Hupe (2014). The researcher summarized the process of driving university strategies toward sustainable development goals, aligning with four key missions: 1. Graduate production, 2. Research and Innovation, 3. Providing academic services to society, and 4. Preserving arts and culture (Ministry of Higher Education, Science, Research, and Innovation, 2020). These are further explained through seven strategic driving processes as follows:

The three state universities—Chulalongkorn University, Mahidol University, and Chiang Mai University significantly emphasize sustainable development goals. Education is recognized as the cornerstone of sustainable development, aligning with UNESCO (1997) that education is the best hope for achieving sustainable development goals. The university's mission, as concluded from the interviews, is as follows:

1. Graduate Production: The state universities have implemented educational management systems to drive sustainable development goals, including (1) Setting policies and directions for graduate production and student development in line with the needs of communities, society, and the nation, based on both national and international development frameworks. (2) Developing curricula related to sustainable development goals, where every program and activity integrates these goals. (3) Offering diverse curricula on sustainable development goals, whether degree-awarding or non-degree programs. (4) Promoting and supporting equal educational opportunities and lifelong learning. (5) Designing and managing educational curricula to ensure learning outcomes meet higher education qualification standards. (6) Developing faculty members to focus on learner-centered teaching approaches that support sustainable development goals. (7) State universities have clear indicators to monitor graduates and ensure employment outcomes for them. (8) Assessing employers to determine whether graduates meet their expectations and genuinely address the workforce's needs, aiming for continuous improvement.

2. Research and Innovation: The state universities have implemented research and innovation initiatives to drive sustainable development goals: (1) Setting policies and directions for research that align with sustainable development goals. (2) Promoting and supporting research and innovations that meet the needs of communities, society, and the nation. (3) Enhancing the capabilities of faculty members, researchers, and students to create research and innovations that address sustainable development goals. (4) Supporting and promoting the procurement of funding, allocation of budgets, and sufficient resources for research and innovation output. (5) Creating partnerships with public and private sectors and communities to promote interdisciplinary research that develops policies to address societal issues. (6) Generating knowledge and innovations to develop the economy, society, and the environment. (7) Encouraging the application of research and innovations for commercial or public use to meet sustainable development goals. (8) Ensuring adherence to research ethics, quality assurance in research, innovation creation, and research and innovation output evaluation.

3. Academic Services to Society: The state universities have carried out academic services for society as follows: (1) Setting policies and directions for academic services to society. (2) Collaborate with academic networks, communities, society, and public and private sectors. (3) Promoting and supporting the application of knowledge from research to develop communities and society. (4) Encouraging faculty members, students, and communities to collaborate in learning and developing local areas to create employment and income, leading to sustainability. (5) Disseminating knowledge, providing training, and creating sustainable development cooperation networks for communities, society, and the nation. (6) Using social media platforms to disseminate academic services. (7) Providing opportunities for communities, government agencies, private sectors, and industries to access universities, efficiently promoting job creation and sustainable livelihoods. (8) Ensuring transparency and accountability in academic service delivery.

4. Cultural Conservation: The state universities have implemented cultural conservation efforts as follows: (1) Setting policies and directions to promote art and culture for preservation, continuity, and the creation of sustainable values. (2) Offering courses and

activities that foster an understanding of local and national communities' history, art, culture, and traditions. (3) Promoting the creative economy involves adding value to products or services through creative thinking. (4) Supporting research, technology, innovations, and cultural and social foundations to help create new policies and projects for the country (soft power). (5) Instilling values related to sustainable development goals. (6) Promoting ecotourism. (7) Promoting community-based practices to create jobs and income for local communities without harming the environment, thus ensuring sustainability for the economy, society, and environment. (8) Overseeing and monitoring the cultural conservation process to ensure its genuine sustainability.

The process of driving the strategies of state universities toward sustainable development goals can be analyzed through 7 key processes as follows:

1. Acquisition of Strategic Leadership: This is crucial to ensuring sustainability. State universities recruit leaders with a clear vision of sustainable development. University leaders must clearly understand the Sustainable Development Goals (SDGs) and the ability to drive policies forward. The selection process should allow staff and students to participate actively. The recruitment of leaders in state universities is aligned with Sustainable Development Goal 5: Gender Equality (Achieve gender equality and empower all women and girls), ensuring diversity in terms of gender and age groups during the selection process.

2. Development of Operational Plans: State universities have clear policies and strategic plans to drive sustainable development goals. This is reflected in the university's strategic plans, which specify SDGs and outline strategies for moving these policies from the university level to local communities and even national levels. The SDGs implementation plan is aligned with the university's four main missions: education, research, academic services, and cultural preservation.

3. Translating Strategies into Actionable Plans/Projects: State universities have developed and transformed strategies into concrete, actionable plans and projects. The operational plans to drive sustainable development goals come from top-down leadership and input from staff, students, and local communities (bottom-up). This approach follows a hybrid implementation model, integrating top-down and bottom-up processes. This aligns with Wright et al. (1992), who defined strategy as a plan from top management leading to outcomes that align with the organization's mission and objectives. Similarly, Certo and Peter (1991) define strategy as an operational method that ensures success in achieving organizational goals. Furthermore, state universities continuously evaluate, revise, and assess project outcomes according to the principles of Edwards W. Deming's PDCA management process, which consists of Plan, Do, Check, and Act.

4. Resource Allocation: University administrators must plan resource use efficiently to maximize effectiveness. State universities, which are research universities, receive a portion of their budget from government allocations and generate income through student tuition, research contracts, and academic services. Given that resources are limited, universities must prioritize resource use and focus on the most critical areas first. Sustainable development strategies are globally significant, and state universities allocate resources to projects aligned with sustainable development goals. All three state universities are ranked among the top 100 globally in The Times Higher Education Impact Ranking, which has led to more excellent funding support compared to other universities. This supports Mohrman (2013), who stated that universities with higher potential for development and global ranking tend to receive more substantial funding, research support, and improving academic performance.

5. Preparation of Institutions to Implement Policies: State universities clearly define the structure, staffing, and responsibilities of the units responsible for driving the SDGs. They establish SDG-driven units that connect university leaders, department heads, staff, and students, creating an effective communication and monitoring system to ensure the successful implementation of sustainable development strategies. This aligns with Baker, B.S.H. (1994), who stated that successful policy implementation requires a straightforward process broken down into four steps: (1) Operational programming, (2) Institutional arrangements, (3) Organization and administration to ensure policy goals are achieved, and (4) Budgeting and planning.

6. Strategic Communication and Public Relations: Strategic communication is crucial in helping an organization achieve sustainable development goals. Universities should communicate with students, staff, communities, and society to raise awareness and build partnerships with stakeholders, such as international organizations, NGOs, educational institutions, the private sector, and local communities. This aligns with Argenti et al. (2005), who state that planned communication with clear objectives and targeted groups is one of the primary responsibilities of an organization. Public relations play a significant role in driving strategy, and state universities emphasize strategic communication to make everyone recognize that the SDGs are relevant and part of daily life. For example, reducing plastic consumption (SDG 12), choosing clean energy (SDG 7), and opting for environmentally friendly food choices (SDG 2). However, communication alone may not foster awareness and sustainability. Therefore, universities should set good examples by implementing policies to achieve sustainable development goals, serving as models for staff, students, and the public.

7. Motivation and Cultivating Organizational Culture: To create sustainability within the organization, society, and the nation, university leaders must foster motivation and instill organizational cultural values related to sustainable development in the minds of students, staff, and the public. This process should encourage participation, adaptability, and consistent behavior. This aligns with Denison, D. R. (1990), who discussed the impact of organizational culture on effectiveness. Denison's research found that organizational culture significantly influences an organization's effectiveness when it generates (1) involvement and participation, (2) adaptability, (3) consistency, and (4) a clear vision.

Conclusions

Currently, the world is facing economic, social, and environmental challenges, with rapid degradation leading to global warming affecting the entire planet. Sustainable development is, therefore, a critical priority that requires collective effort from all sectors, particularly state universities, which play a pivotal role in advancing and promoting sustainable development pathways (Sustainable Development Goals: SDGs). As centers of knowledge and intellectual leadership, universities are essential in driving sustainable development. The sustainable development of nations and the world relies on the knowledge produced by universities (McGregor, S. L. T., 2004). In light of these challenges, the researcher recognizes the impacts on the country and the world, which led to studying the strategies for driving state university strategies toward achieving sustainable development goals. The study was conducted through interviews with university administrators, key stakeholders, and individuals involved in moving these strategies from three state universities, Chulalongkorn University, Mahidol University, and Chiang Mai University universities that

are ranked 1-3 in Thailand according to the Times Higher Education Impact Ranking, based on their global impact on society (SDGs Impact). All three universities are ranked among the top 100 in the world.

Following the interviews, the researcher summarized the strategy implementation model and presented it to experts with experience in driving sustainable development goals for feedback and validation of the most suitable model for strategy implementation. The research findings indicate that the model for driving state university strategies towards sustainable development goals aligns with the theories of Baker, B.S.H. (1994), David, F. R. (2009), and Hill and Hupe (2014), encompassing four key missions: 1. Producing graduates, 2. Conducting research, 3. Providing academic services to society, and 4. Promoting arts and culture (Ministry of Higher Education, Science, Research and Innovation, 2020). Furthermore, the strategy implementation process consists of seven key processes, as summarized in the table below.

Model for Driving Strategy of Autonomous Universities towards Sustainable Development

1. Graduate Production	2. Research and innovation	3. Academic services to society	4. In terms of preserving arts and culture
(1) Establish policies for graduate production and student development consistent with the needs of the community, society, and the country. (2) Create a curriculum and integrate SDGs. All courses and activities (3) Provide a degree/ non-degree SDGs curriculum. (4) Promote educational equality and lifelong learning. (5) Create a curriculum that complies with higher education qualification standards. (6) Developing faculty in organizing learning that focuses on learners and emphasizes SDGs. (7) Set clear indicators for monitoring and ensuring that graduates have jobs. (8) Evaluation of graduate users to improve and develop further.	(1) Set research policies and directions to meet the SDGs. (2) Promote research and innovation that responds to the needs of the community, society, and the country. (3) Promote and develop the potential of lecturers, researchers, and students to create research and innovations that meet the SDGs. (4) Support the procurement of funding sources, budget allocation, and sufficient resources for research. (5) Create cooperation with network partners, integrating research across disciplines to develop policies that help solve social problems. (6) Create knowledge and innovation to develop the economy, society, and the environment. (7) Promote the use of research results and innovations for commercial or public benefit; (8) Supervise the implementation of ethics, quality assurance, innovation creation, and evaluation of research and innovations.	(1) Determine policies and directions for academic services to society. (2) Create cooperation with network partners. (3) Promote and support the application of knowledge from research studies to develop communities and society. (4) Promote teachers, students, and communities to learn together and develop the area to create jobs and generate income for the community. (5) Disseminate knowledge, provide training, and create a cooperation network for sustainable development in the community, society, and country. (6) Disseminate academic services through social media. (7) Provide opportunities for the community and private sector to easily access the university, develop further, and create sustainable jobs and careers. (8) Supervise and monitor the academic service process to ensure transparency and accountability.	(1) Establish policies and directions for promoting arts and culture for sustainability. (2) Provide courses in the curriculum that create knowledge of culture and traditions. (3) Promote the creative economy. (4) Support the application of research results and new innovative technologies to create new national policies and projects (soft power) (5) Inculcate values in the areas of sustainable development goals. (6) Promote eco-tourism (7) Disseminate community ways of life to create jobs and income for local communities without destroying the environment and creating sustainability for the economy, society, and the environment. (8) Supervise and monitor the process of preserving arts and culture to ensure true sustainability.

The 7 Processes for Driving University Strategy Towards Sustainable Development Goals (SDGs)

1. Executive Acquisition Strategy	2. Preparation of operational plans	3. Transforming the established strategies into plans/projects.	4. Appropriate resource allocation	5. Preparing the agencies that will implement the policy
(1) Executives with a vision for sustainable development. (2) Executives with the knowledge and ability to drive policy. (3) Provide opportunities for personnel and students to participate in selecting administrators. (4) Selected based on consideration of the principle of equality according to the SDGs 5 goals. (5) Executives must be ethical and in line with SDGs 16.	(1) State-controlled universities have clear policies and strategic plans to drive the SDGs. (2) Specify sustainable development goals in the university's strategic plan. (3) There is a strategic plan to drive policy from the university to the community and national levels. (4) The implementation of SDGs will be consistent with the university's mission.	(1) State-controlled universities have planned and translated the established strategies into tangible plans and projects. (2) SDGs action plan comes from top-down executives. Listening to personnel, students, and the surrounding community (Bottom-up) is a mixed policy implementation. (Hybrid Theories of Implementation) (3) The project performance has been continuously reviewed, revised, and evaluated by the principles of Edwards W. Deming PDCA Management Process	(1) State-controlled universities plan their resource utilization with maximum efficiency and effectiveness. (2) Focus on what matters first. Sustainable development strategies are a global issue, and the university has allocated resources to projects that address sustainable development goals. (3) There is support for research funding and shared resources between departments. Share Resources (4) Check and evaluate to ensure transparent resource allocation.	(1) State-controlled universities clearly define the structure, staffing, and responsibilities of the SDG-promoting agencies. (2) The agency is agile and flexible in its work. (3) An SDG driving unit connects university administrators, department heads, personnel, and students. (4) Create a network of SDG teams at both national and international levels. (5) Create an effective coordination and follow-up system. (6) Evaluation is performed according to indicators. Of the department continuously (PA)
6. Strategic communication, public relations (1) State-controlled universities communicate to students, personnel, communities, and society about their policies to drive sustainable development goals. (2) Create cooperation with partners such as international organizations, NGOs, educational institutions, the private sector, and communities. (3) Make everyone see that the SDGs are close to home and relevant to daily life, such as reducing the amount of plastic used (SDGs 12), choosing clean energy (SDGs 7), and consuming environmentally friendly food (SDGs 2), etc. (4) Universities should have good examples of driving policies to achieve sustainable development goals and serve as models for personnel, students, and the public.				
7. Motivation and instillation of organizational culture (1) University administrators shall motivate and instill organizational culture values in sustainable development into the minds of students, personnel, and the public. (2) It creates organizational participation, adaptation, and consistent behavior.				

Figure 3: Model for Driving Strategies of State Universities Toward Sustainable Development Goals

Source: The author's analysis is based on in-depth interviews with university executives, relevant stakeholders, and individuals with vested interests in state universities. This is followed by a review of the proposed model by experts experienced in driving sustainable development goals to provide feedback on the most suitable approach for advancing the strategies of state universities.

Findings from the Research on the Model for Driving Strategies of State Universities Toward Sustainable Development Goals

The research findings on the model for driving strategies of state universities toward sustainable development goals reveal that all three universities follow a consistent process in implementing their plan. State universities emphasize the importance of sustainable development goals (SDGs) and have incorporated them into their vision and mission statements. Universities have developed curricula that align with the SDGs, and every activity carried out by these institutions integrates these goals. Additionally, the universities have established networks for sustainable development collaboration and have produced research that addresses the needs of the community, society, and the nation. They also promote sustainable tourism, disseminate local community practices, and create jobs and income for local communities to ensure sustainability. The universities have strategies for selecting and recruiting executives to drive sustainable development goals. Furthermore, they have policies for formulating action plans and projects for implementation, creating departments to drive these goals, and allocating financial and human resources clearly. These efforts are supported by continuous monitoring and evaluation, guided by the PDCA cycle theory of Edwards W. Deming. Additionally, the universities engage in public relations and instill organizational values and a culture that promotes the SDGs among students, staff, communities, society, and the country. This integrated approach contributes to the sustainability of the country and the world's economy, culture, and environment.

Recommendations

Based on the research findings on the model for driving strategies of state universities toward sustainable development goals, the researcher offers the following recommendations to support the missions of universities in Thailand across four areas. Various universities can apply these suggestions as guidelines for advancing strategies toward sustainable development goals both nationally and globally:

1. Education: Universities should focus on developing essential skills in students, such as critical thinking, problem-solving, and collaboration, which are crucial for creating a sustainable society. They should also establish collaborative learning platforms, enhance online education systems, and develop open learning platforms to expand learning opportunities and train students, staff, the public, people with disabilities, and marginalized groups, enabling them to access lifelong learning. These initiatives align with the Sustainable Development Goals (SDGs), including Goal 4 (Quality Education), Goal 5 (Gender Equality), and Goal 10 (Reduced Inequalities).

2. Research and Innovation: Universities should promote research that benefits communities and society, such as sustainable agriculture development, water management, disaster mitigation, and community resilience against global climate change. This aligns with SDGs such as Goal 1 (No Poverty), Goal 2 (Zero Hunger), Goal 6 (Clean Water and Sanitation), Goal 7 (Affordable and Clean Energy), Goal 11 (Sustainable Cities and Communities), Goal

12 (Responsible Consumption and Production), Goal 13 (Climate Action), Goal 14 (Life Below Water), and Goal 15 (Life on Land).

3. Academic Services to Society: Universities should establish research networks with domestic and international universities and international organizations with expertise in sustainable development to generate research that addresses global issues. This includes vaccine development for emerging diseases, tackling global warming, reducing greenhouse gas emissions, supporting clean energy use, and promoting sustainable economic growth without compromising society and the environment. This aligns with SDGs such as Goal 3 (Good Health and Well-Being), Goal 8 (Decent Work and Economic Growth), Goal 9 (Industry, Innovation and Infrastructure), and Goal 17 (Partnerships for the Goals).

4. Cultural Preservation: Universities should encourage staff and students to engage in community outreach, utilizing cultural practices and local products to create added value. This involves spreading awareness of the United Nations' SDGs and King Bhumibol Adulyadej's Sufficiency Economy Philosophy (SEP) in daily life to promote moderation, rationality, and resilience based on knowledge and virtue. This aligns with SDG Goal 16 (Peace, Justice, and Strong Institutions) to foster balanced and sustainable development.

References

- Argenti, P. A., Howell, R. A., & Beck, K. A. (2005). The Strategic Communication Imperative. *MIT Sloan Management Review*, 46(3), 83–89
- Avevor, D. (2017). *Prioritizing Sustainable Development Goals (SDGs): Ghana's possible options*. Modern Ghana. <https://www.modernghana.com/news/754940/prioritizing-sustainable-development-goals-sdgs-ghanas.html>
- Bailey, K. D. (1987). *Methods of Social Research* (3rd ed.). Collier Macmillan.
- Baker, B. S. H. (1994). *Strategic Information Management: Challenges and Strategies in Managing Information Systems*. Butterworth Heinemann.
- Bardach, E. (1977). *The Implementation Game: What Happens After a Bill Becomes a Law*. MIT Press.
- Bejinaru, R. (2010). Knowledge Dynamics and Ba. *The Annals of the "Stefan cel Mare" University of Suceava*, 10(Special issue), 217–223.
- Bejinaru, R. (2016). Knowledge Dynamics Impact Intellectual Capital in Organizations. *Management Dynamics in the Knowledge Economy*, 4(3), 515–534.
- Bejinaru, R. (2017a). Knowledge Strategies Aim to Improve the Intellectual Capital of Universities. *Management & Marketing. Challenges for the Knowledge Society*, 12(3), 500–523.
- Bejinaru, R. (2017b). Universities in the Knowledge Economy. *Management Dynamics in the Knowledge Economy*, 5(2), 251–271.
- Bejinaru, R., & Prelipcean, G. (2017). Successful Strategies to be Learned From World-Class Universities. *Proceedings of the International Conference on Business Excellence*, 11(1), 350–358.
- Brundtland, G. (1987). *Our Common Future: The World Commission on Environment and Development*. Oxford University Press.
- Certo, S. C., & Peter, J. P. (1991). *Strategic Management: Concepts and Applications*. MacGraw-Hill.
- Chaeddhananan, K. (2022). The Model for the Strategic Drive of Thai Higher Education Institutions Toward World-Class Universities. *Faculty of Social Sciences and Humanities, Mahidol University*.

- Chaeddhananan, K. (2024). Developing Inner Skills of Organization Leaders: Toward Leadership That Truly Impacts Global Sustainable Development. *Research Institute for Languages and Cultures of Asia, Mahidol University*.
- Creswell, J. W. (1998). *Qualitative Inquiry and Research Design: Choosing Among Five Traditions*. Thousand Oaks: Sage.
- Creswell, J. W. (2013). *Qualitative Inquiry and Research Design: Choosing Among Approaches* (3th ed.). Thousand Oaks, California: Sage.
- Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks, California: SAGE.
- David, F. R. (2007). *Strategic Management: Concepts and Cases* (11th ed.). Pearson Prentice Hall.
- David, F. R. (2009). *Strategic Management: Concepts and Cases* (13th ed.). Pearson Education.
- David, F. R. (2012). *Strategic Management: Concepts and Cases* (6th ed.). Prentice Hall.
- Deming, E. W. (2009). Meaning of PDCA. Retrieved from http://uac.kka.ac.th/metamorph_grass/QA/Report/PDCA.pdf
- Denison, D. R. (1990). *Corporate Culture and Organizational Effectiveness*. John Wiley & Sons.
- Dhirathiti, N. (2014). *Lifelong Learning Policy for the Elderly People: A Comparative Experience between Japan and Thailand*, *International Journal of Lifelong Education* 33, no. 6
- Dhirathiti, N. (2021). *Approaches to Policy Implementation*. Teaching materials for the course 579 Critical Public Policy, Nakhon Pathom: Mahidol University.
- Elmore, R. F. (1978). Organization Models of Social Program Implementation. *Public Policy*.
- Hargreaves, A. (1975). *The Missing Link: The Study of The Implementation of Social Policy*. Teacher College Press.
- Hill, M., & Hupe, P. (2014). *Implementing Public Policy: An Introduction to The Study of Operational Governance* (3rd ed.). SAGE Publications.
- Hjern, B. (1982). Implementation Structures: A New Unit for Administrative Analysis. *Organization Studies*.
- Jantarasorn, W. (2011). *Theory of Public Policy Implementation*. Prik Wan Graphic.
- Jantarasorn, W. (2013). *An Integrated Theory of Public Policy Implementation*. Prik Wan Graphic.
- Joungtrakul, J. (2010a). *Qualitative Research: A Tool for Knowledge Creation for National Development (in Thai)*. Bangkok: Business Law Center International Company Limited.
- Joungtrakul, J. (2010b). *Strategic Human Resource Management: Theory and Practices (in Thai)*. Bangkok: Business Law Center International Company Limited. (In Thai)
- Joungtrakul, J. (2024). *Research Philosophy: From Theory to Practice (in Thai)*. Bangkok: Business Law Center International Company Limited. (In Thai)
- Joungtrakul, J. (2024). *Research and Development (R&D): from Philosophy to Practice (in Thai)*. Bangkok: Business Law Center International Company Limited. (In Thai)
- Kerr, I. (1996). Processing Supplement, Ultrafine Milling of Ceramica. *Industrial Mineral*.
- Lipsky, M. (1971). Street-level Bureaucracy and The Analysis of Urban Reform. *Urban Affairs Review*, 6(4), 391–409.
- McGregor, D. (1960). *The Human Side of Enterprise*. McGraw-Hill.
- McGregor, S. L. T. (2004). The Nature of Transdisciplinary Research and Practice. Retrieved from <https://scholar.google.com/citations?user=3SbUbcwAAAAJ&hl=en>
- Ministry of Higher Education, Science, Research and Innovation. (2022). *Higher education, science, research and innovation policy and strategy 2023-2027*. Retrieved from <https://www.mhesi.go.th>
- Mohrman, K. (2013). Are Chinese Universities Globally Competitive? *The China Quarterly*.
- Mosher, A. T. (1978). *An Introduction to Agriculture Extension*. Singapore National Printers.
- Nesheim, M. (2000). University Autonomy: What is It About? Presentation on March 6, 2000, at Prince of Songkhla University.

- Nimphnich, J. (2009). *Policy Analysis: Scope, Concepts, Theories, and Case Studies*. Sukhothai Thammathirat Open University.
- Pressman, J. L., & Wildavsky, A. (1979). *Implementation* (2nd ed.). University of California Press.
- Ripley, R. B., & Franklin, G. A. (1982). *Bureaucracy and Policy Implementation*. Dorsey Press.
- Robbins, S. P., & Coulter, M. (2007). *Management*. Pearson Prentice Hall.
- Rondinelli, D. A., Nellis, J. R., & Cheema, G. S. (1983). *Decentralization in Developing Countries: A Review of Recent Experience*. The World.
- Sabatier, P. A., & Mazmanian, D. A. (1980). The Implementation of Public Policy: A Framework of Analysis. *Policy Studies Journal*, 8(Special issue), 538–550.
- Scharpf, F. W. (1978). Interorganizational Policy Studies: Issues, Concepts, and Methods.
- Schumacher, E. F. (1973). *Small is Beautiful: A study of Economics as if People Mattered*. Harper & Row.
- Stake, R. E. (2010). *Qualitative Research: Studying How Things Work*. New York, NY: The Guilford Press.
- The United Nations. (2024). *Sustainable Development Goals (SDGs)*. Retrieved from <https://www.timeshighereducation.com/impactrankings>
- Thompson, A. A., & Strickland, A. J. (1999). *Strategic Management: Concepts and Cases* (8th ed.). Richard D. Irwin.
- Tontisirin, K. (2022). Sufficiency Economy Philosophy (SEP) Theory. Document for the Academic Seminar on New Dimension Research Towards Sustainable Development Goals (SDGs), April 26, 2022.
- United Nations. (2015). *The Millennium Development Goal Report 2015*. Retrieved from <https://www.undp.org/publications/millennium-development-goals-report-2015>
- United Nations. (2022). *The Sustainable Development Goals Report 2022*. Retrieved from <https://unstats.un.org/sdgs/report/2022/The-Sustainable-Development-Goals-Report-2022.pdf>
- United Nations. (2023). *The Sustainable Development Goals Report 2023*. Retrieved from <https://www.un.org/en/conferences/SDGSummit2023>
- Van Meter, D. S., & Van Horn, C. E. (1975). The Policy Implementation Process: A Conceptual Framework. Retrieved From <https://www.researchwithrutgers.com/en/publications/the-policy-implementation-process-a-conceptual-framework>
- Wheelen, L. T., & Hunger, J. D. (2004). *Strategic Management and Business Policy* (9th ed.). Pearson Education.
- Williams, C. N. (1975). *The Agronomy of The Major Tropical Crops*. Oxford University Press.
- Wright, P. L., Pringle, C., & Kroll, M. (1992). *Strategic Management: Text and Cases*. Allyn and Bacon.
- Yamnill, S. (2020). *Sustainable Human Resource Development*. Faculty of Social Sciences and Humanities, Nakhon Pathom: Mahidol University.